

The Legend of the Magician of Maranello

see page 16

MOTOR TREND

FEBRUARY 1958 35c

**CUSTOMIZE
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Buyers Guide:

'58 PLYMOUTHS

'58 PONTIACS

**Engine, Transmissions,
Extra equipment...**

DRIVING TESTS!

MORE FEATURES

How Hot is the 300-D?

Newest Foreign Cars

Rambler's "American"

FEBRUARY 1958 35c

MOTOR TREND

The Car Owners Magazine

*For those who would consider seating space with
their sport . . . take a look at the supercharged*

Studebaker Golden Hawk



Finned drums provide efficient air cooling of brakes.



Non-slip differential sends power to rear wheel with the best traction, not poorest.



Two-stage blower delivers boost when needed, idles at cruise speeds.



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Why not test-drive a Golden Hawk and form your own conclusions? And remember, the Golden Hawk means fun for the entire family.

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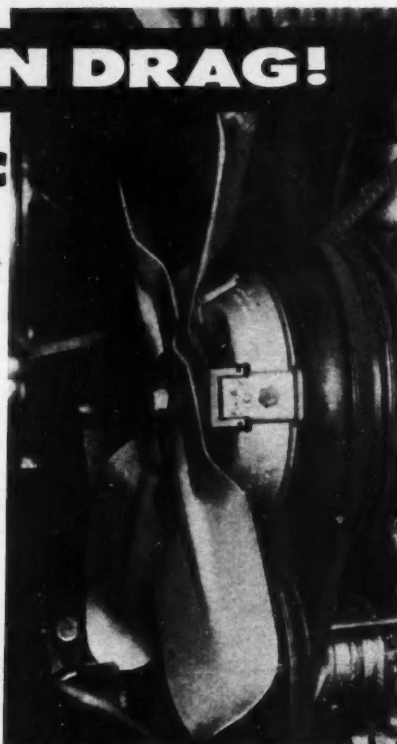
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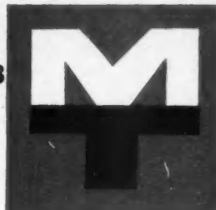
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FEBRUARY 1958



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ADVERTISING PRODUCTION

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PUBLISHER

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NEXT MONTH

*Design Contest With Big Prizes!
Sam Hanks in Three Corvettes!
Customs with a Foreign Flavor*

MOTOR TREND

MOTOR TREND

THE COVER:

Larry Watson's colorful scalloping handiwork photographed by Jim Potter. Ferrari engine in upper right corner shot at factory in Modena, Italy by publisher Robert E. Petersen.

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(Advertisement)

McCulloch Supercharger



➤➤ Tips

by
John Thompson

If you've ever had to get out of your car in a driving rain to open your garage door, chances are a new product we're introducing this month will be of real interest to you.

It's known as the Paxton Sentry, a remote control device that opens and closes the garage merely by pushing a button in your car or inside your home. If you're like most men who use their garage for storing tools and other valuables, you'll appreciate the "burglar-proof" locking feature provided by the Sentry. The door will remain locked until you want it to open—and then by means of the remote control unit in your car or home.

Unlike many other such devices, the Paxton Sentry requires no expensive wiring to install. In fact, just about anyone who knows how to work a wrench and screw-driver can install the Sentry on the garage door in nothing flat.

If you'd like to know more about this convenient new remote control unit, just write to me for complete details including price, descriptive literature and the name and address of your nearest dealer. Send your card or letter to John Thompson, Paxton Products, 929 Olympic Blvd., Santa Monica, Calif. I'll see that your material is sent in a jiffy.

Judging from the results of recent speed events held here in Southern California, it appears that Chevrolet is headed for its most successful year in the drags. For example, Chuck Frost of El Monte drove his McCulloch supercharged Corvette to a world's record at Santa Ana when he turned 116.88 mph in a standing quarter-mile! The car sponsored by Porter Chevrolet Co. of Pasadena, was equipped with three carburetors and a McCulloch enclosure box as well as a supercharger.

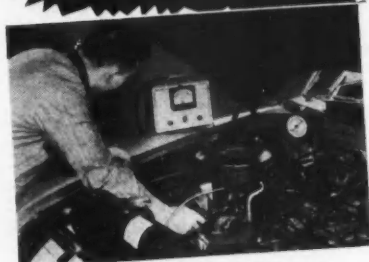
Another hot mark was turned in by Redondo Beach mechanic Gordon Funk, who piloted his 1957 Bel Air Sports Coupe to an impressive 109 mph at Pomona. Funk's Chevy was equipped with McCulloch blower and three carburetors but was otherwise stock, with a 283 cu. in. engine and a total weight of 3,650 pounds.

We'll have some other rapid times to report in next month's column. In the meantime, however, lest you think that McCulloch superchargers are built for speed alone, let me assure you that such is definitely not the case. In fact, many of our customers are doctors, engineers, traveling salesmen and accountants—men who appreciate the smooth, effortless acceleration and extra passing power a McCulloch provides. Speaking of passing power, most law enforcement authorities agree that lack of it is one of the major causes of highway traffic accidents. When you have to get by someone in a hurry, it's nice to know you've got the stuff under the hood to do it.

For more details on the McCulloch supercharger, just write to me and I'll send you the full particulars promptly. That's all for now . . . see you next month.

MOTOR TREND/FEBRUARY 1958 5

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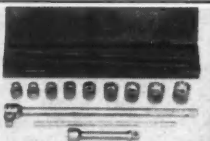
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MEMO

from the editor

LATE FALL and early winter certainly seem to be show time, at least as far as cars are concerned. On the heels of our return from the European Shows we saw a new car show in Los Angeles, drove to San Francisco to see the International Auto Show at the Cow Palace, then prepared to see the auto shows in Chicago and Detroit in January. It's highly interesting to see the different approaches to presenting virtually the same cars by various show sponsors. Some leave it up to the cars themselves to attract a crowd; others rely on entertainment of one sort or another to entice the people.

Earls Court had cars and accessories, no fanfare. Turin initially had a grand opening by the President of Italy, but after that nothing more but beautiful cars and accessories. Some shows we've seen have relied on a dance band, a juggling act, girls, and other sundries to capture a crowd. The San Francisco International Auto Show had two things we liked: a salon showing of one each foreign and U.S. manufacturer's car in a central arena; and a Concours d'Elegance on opening day.

This is one of the few times we have ever seen cars of all makes and types together in one Concours. There were sports cars, touring cars, foreign sedans, competition cars, classics, antiques, vintage, customs, and hot rods. The total number and variety must have established some sort of record, for there were 207 in all. Anyone who wished to view these cars on display could do so for free, plus park for free. Publicity gimmick or not, our hats are off to the Motor Car Dealers Association of San Francisco and the show management for staging such an event.

ON THE WAY to and from San Francisco, we had a '58 Dodge at our disposal. It's one of the few test cars that have been fitted with seat belts and so we took advantage of them. If the occupants of one car we saw involved in a wreck had been using them, we're sure they wouldn't have crashed through the windshield the way they did. But aside from that, one little-publicized advantage of seat belts in over-the-road driving is that as a driver or passenger you're more comfortable and less tense. Upcoming curves, dips and bumps don't bother you; you know you're going to stay put, so you don't hang on in anticipation of bouncing around. This is reason enough for us to like seat belts in our car.



YOU MIGHT WONDER

why you sometimes see the staff of MOTOR TREND with crash helmets and other times without them in road test shots. The truth of the matter is that *whenever* we do *any* tests that involve our personal safety, we've got on our Bell 500 helmets. A good example of this is the accompanying shot in which we were taking a Ford Fairlane around an S-bend at Riverside International Raceway as hard as we could. We were not only testing the car but giving the TV photographer some action

to incorporate into the Socony Mobil film covering MOTOR TREND's road-testing procedures. Frankly, in such driving we wouldn't be without those Bell helmets.

Warren



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LETTERS

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(20a) Wolfsburg
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Dear Sir:

Since it has become possible to reach Mars within the next few years, and because of the fact that your Volkswagen is very durable, performs duty without water, is most suitable for every zone and has proved itself to be most symmetrical for every sphere, we ardently request you to very kindly grant us a sole agency for your car on Mars.

We will be glad to arrange immediate payment of the annual royalty, should it become necessary, and we are quite prepared to go to West Germany personally for the execution of a solid agreement.

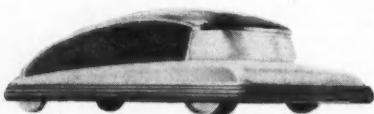
We are confident that our earnest request will receive your favorable consideration and that you will very kindly communicate with us, confirming our genuine desire.

Yours faithfully,

SANER THAN SOME

Dear Sir:

I tender the drawing enclosed as the outline of a car of the future. Side windows

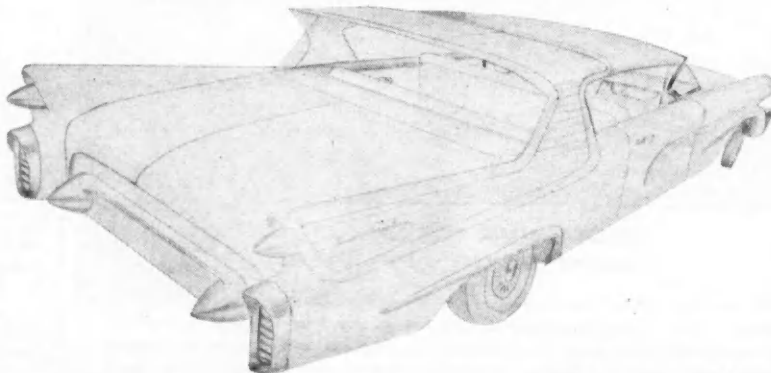


and door details have not yet been styled. The design is particularly suited to a large-family, radar-controlled, cross-country turn-pike cruiser.

I hasten to add that the design is by Hoover . . . Hoover vacuum cleaner, that is.
T. E. Dadson Franklin, Mich.

Editor's Note:

We welcome original drawings and sketches from readers with a flair for designing cars. However, we request that all designs be submitted on sheets of paper no larger than 8 1/2 x 11 inches. Larger drawings are not only unwieldy but will not fit into our files.



CAR OF THE FUTURE

Dear Sirs:

I enjoy the readers' ideas on what the



EUROPEAN DESIGN

Dear Sirs:

I am an 18-year-old subscriber, and I study in the Engineering University of Lisbon.

This is my idea of a future European luxury car. I have never seen any European



drawings from readers since I have been reading your magazine.

I would like to correspond with an engineering student of about my age, also interested in cars.

Oscar Gonzalez

Av. 5 Outubro-297-3-D
Lisbon, Portugal

DETROIT FAN

Dear Sir:

I very much admire your country's excellent automobiles and have owned several. These were, unfortunately, rather ancient, owing to their very high cost over here. For instance, a 10-year-old Buick can cost £500 (\$1400)! However, I live in hopes of having a "newish" one some day. I am engaged in the motor trade so have plenty of experience with British and foreign cars.

I wonder if any of your readers would care to correspond with me? I should be very pleased to hear from anyone. I am 25 years old.

Malcolm M. Taylor

Hill House
Worplesdon Nr. Guildford
Surrey, England

WANTED—PEN PALS

Dear Editor:

I read your magazine as soon as it comes to Sweden, and I know that many boys and girls here who are interested in cars read it too. I would like to write to a boy or girl my age (18). I'm interested in sports cars, hot rods and motorcycles.

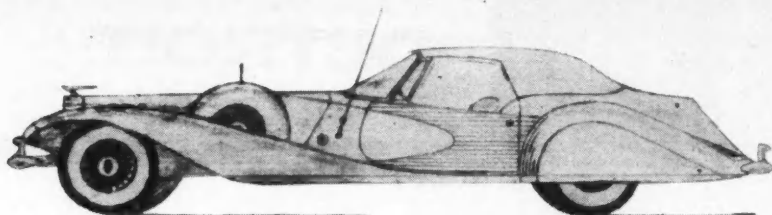
Carl Goran Nylein

Per A: son gata 32
Arvika, Sweden

future cars will look like. Here is my sketch of a future car.

Albert G. Boboth

McKeesport, Pa.



TOUCH OF NOSTALGIA

Dear Sirs:

As the years go on I become more and more apathetic toward American automobile design. Our automobiles have become monuments to pedantry and tiresome clichés with their monstrous and ugly proportions, pro-



miscuous use of ornamentation, simulated air scoops, gaudy interior fabrics, etc.

So here is my idea of a custom-built luxury car which obviously could not originate in this country, although some of its details are reminiscent of our own great classics.

Bradford S. Barnes New Haven, Conn.

PERSONALIZED PLYMOUTH

Dear Sirs:

My car is a '48 Plymouth with a '47 Olds grille, '54 Plymouth engine, frenched headlights and many other odds-and-ends. It has been nosed and decked and re-upholstered. It took me about two months to complete the job.

Joe Ebner

Long Live "The Little Two"!

IN MEMORIAM

Gentlemen:

The passing of Nash and Hudson is regrettable, and makes it possible for us "Monday morning quarterbacks" to speculate about what should have been done when the two companies merged into AMC.

I feel that the abandonment of the Hudson "step-down" design was the big mistake. The introduction of "step-down" by Hudson in 1948 was the beginning of the low-slung styling prevalent in today's automobiles.

During the years 1951-54 the Hudson Hornet dominated the stock car racing field, mainly because of its superior handling characteristics. In 1955 when torsion bars started being used on Packards, and ball-joint suspension was becoming more popular, AMC killed the "step-down" on Hudsons, and lost for that car its place as the best-handling car in America.

Rollo E. Lind

Riverdale, N.D.

GENIUS UNREWARDED

Dear Sirs:

I'm disgusted with the "Big Three" corporations. The independents bring out new mechanical features, and the big boys make the money on them.

Here are a few: Torsion bars—1955 Packard; load levelizer—1955 Packard; limited-slip differential—1955 Studebaker-Packard; seat belts—1951 Nash; combination brake system—1948 Hudson; unit construction—1955 American Motors.

What have FoMoCo, GMC and Chrysler Corp. brought out?

Jeff Holmes

Waukegan, Ill.

A PLEA FOR THE UNDERDOGS

Dear Sirs:

Too many of the automobile-buying public are of the attitude that there is no reason to even consider a product of Studebaker-Packard or American Motors. Reasons for this are numerous and range all the way from ignorance and prejudice to such dandies as the fact that their neighbors don't buy these products.

Despite this attitude the "little two" are important to all of the United States. We are letting one of our largest industries become an oligopoly. The independents, both those in existence and those of the past, have done much for the industry in bringing about important and needed developments.

What is left of this important group of independents has been putting up a good fight for survival against great odds. They deserve our support.

Groups are formed to preserve special interest cars. Why not consider forming a group to help promote interest in what is the last of the independents? I would like very much to receive opinions from readers on this idea.

Douglas Wood

St. Louis, Mo.

SOMETHING'S WRONG

Dear Sir:

Yes, what's wrong with the industry (or is it the American driver?) when a really GOOD car like the Packard can't sell enough to continue normal production? We have a 1954 Clipper (the same price as our '56 Ford Fairlane) which has been trouble-free, easy to service inexpensively, and costs less to operate.

Maybe it's just that people have had too much money to throw away, and the industry has played this fact up to the hilt.

Let's hope some automobile manufacturer will soon reverse the trend and clean up the mess designers and engineers have led them into.

John McKean

Edmonds, Wash.

WANTED—BUYERS WITH GUTS!

Dear Editor:

You recently printed several letters that were sympathetic to the plight of the "independents." I submit that the independents will never be "rescued" until those of us who realize the seriousness of their loss take the bull by the horns and do something about it—in short, go out and buy one, instead of sitting on our hands muttering pious platitudes.

The advertising men have the public entirely too "brand name-conscious." Someone once said, "Put a General Motors name on the old Hudson Hornet and you would have sold a million of them."

What the independents need is some buyers with guts—who won't copy Mr. Jones down the street or who won't let his wife buy the family car for him. Otherwise we're going to get just what we're asking for—less and less competition and everything that that implies.

Don Beaver

Redondo Beach, Calif.

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THE ODDS ARE

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by Joe H. Wherry

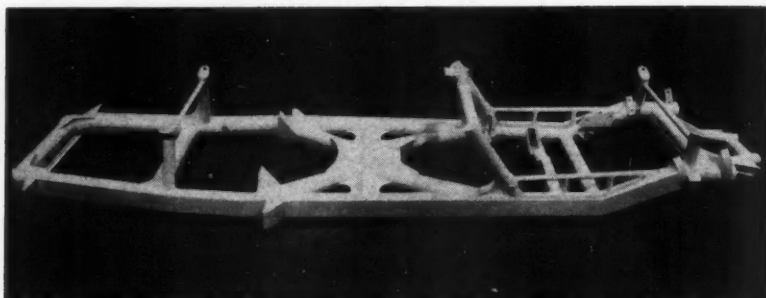
Detroit Editor

UNDER WRAPS for the time being, one or more prototypes of the Argonaut super-car are said to be under extensive cross-country testing with disguised bodies. Thus far no one has been admitted to the works where experimentation is believed under way with a new type of brake lining.

OFFERED TO BUYERS will be a choice of automatic transmission or manual shift with centrally-mounted lever in the floor. Though we have no confirmation, it appears that the engine will be from Chrysler Corp., but with several modifications. Crankcase and lubrication system will be cooled by an oil radiator.

INCREASED SAFETY will be sought by concentrating the mass needed to achieve structural rigidity as close as possible to the base of the car. The aluminum body alone is said to be strong enough in its own right for the sake of passenger safety.

THE TUBULAR FRAME does not need any help of additional resistance to torsional stresses usually provided by the body. According to the manufacturers, this means that the frame alone is capable of absorbing all shock and stress loadings. A super-lightweight body is therefore possible, enabling the engineers to dramatically lower the center of gravity.



ARGONAUT'S TUBULAR FRAME is claimed capable of absorbing all shock and stress, permitting lightweight aluminum body, lowered center of gravity.

NEW FOR AMERICANS, sliding roofs by H. T. Golde & Co. of Frankfort, Germany, are now available to those willing to pay the price for many of the fresh air delights of a convertible with much of the safety of the sedan. Properly adjusted, a sliding roof offers draft-free ventilation and plenty of healthful sunshine.

PRESENTLY OBTAINABLE from a branch shop at 6636 Charlevoix Ave., Detroit, the tops—assembled from pre-fabricated parts imported from Germany—are being installed in everything from Ford station wagons to Cadillac de Ville hardtops. Prices range from \$298 to \$498, depending on whether you yearn for a manually-operated folding job with a rubberized canvas covering, or for a power-operated steel job that slides aft at the mere press of a button.

ALL WORKING PARTS are steel and evi-

dence the usual Teutonic craftsmanship and thoroughness. At present, installers are from Germany, but a training program will soon be under way in major U.S. cities. We tried out both the cloth and steel versions in rainy weather; they're snug and warm. In sunshine, they're *wunderbar*.

FORD MOTOR CO.'S Ford division has subtly eliminated the Custom series, as such, from their line. The recent price discounts were made possible, in large part, by combining the Custom and Custom 300 series. Most folks bought the better-trimmed version, anyhow, and even though the latter cost more to produce, it is said that overall costs were lowered by decreasing the variations which the plainer Custom made necessary. This step toward lowering costs could catch on elsewhere in the industry as well. At least we can hope that it will.



NEW SLIDING ROOFS from Germany can be installed on almost any American passenger car or station wagon.

Both manually-operated rubberized canvas and power-operated sliding steel panel versions are now available.

ALUMINUM USED by Chrysler Corp. averaged 100 pounds per car for the 1957 model run, according to M. F. Garwood, chief materials engineer who reported recently to the House Small Business Subcommittee. The congressional group has been looking into aluminum's future. Garwood confirmed that Chrysler is giving increased consideration to the possibility of aluminum for engine blocks, roofs, radiators, bumpers, and the like.

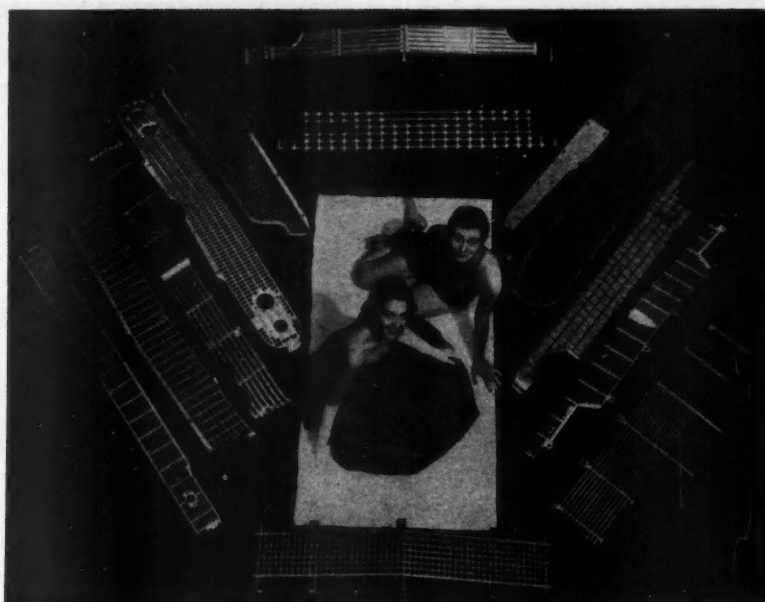
THESE INTERESTING STATISTICS were released: taking the average four-door family sedan as the criterion (with equipment including a V8 engine, automatic transmission, and power steering), the following chart indicates the aluminum used per Chrysler car compared with that of the automotive industry as a whole.

Year	Chrysler	Industry Average
1946	9 lbs.	2 lbs.
1955	70 lbs.	29.6 lbs.
1957	100 lbs.	45 lbs.

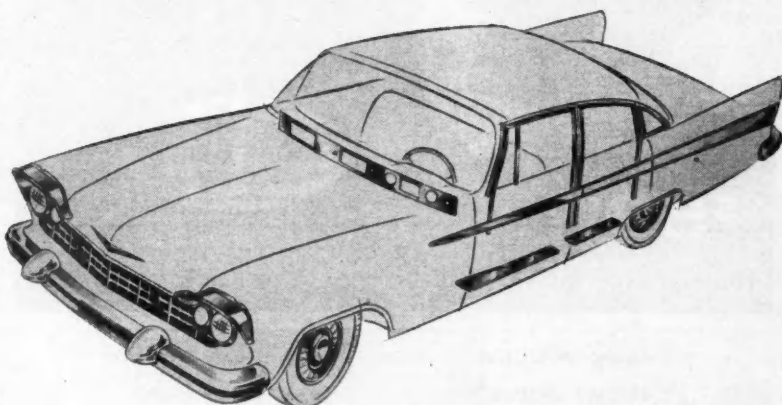
"POLYPROPYLENE" is a new plastic with some remarkable prospects, especially in the automotive industry. Produced by Hercules Powder Co. of Wilmington, Del., the plastic with the long name has, according to a spokesman for the firm, a "wider range of outstanding properties than any single plastic yet developed, and has a lower specific gravity than any other plastic material." In other words, items or parts made from Polypropylene will weigh less than those made from competitive plastics. Under development for three years, this particular plastic is new only in this country. An Italian product called "Moplen" is substantially the same and has been in production in Italy for several months.

"PRO-FAX" is the trade name of the Hercules product, and while its price per pound is currently higher than other plastics, it will come down as production rises. The automotive industry should welcome such a product with a very high tensile strength, temperature resistance, good hardness qualities, clearness and great resiliency. Rumor has it that Pro-Fax, or polypropylene if you prefer, is suitable for air and fuel lines and brake hydraulic systems, as well as for small and medium-sized molded parts. Together with aluminum, plastic may give steel a run for the money as regards parts for easy annual model changes.

LES GRILLES illustrated above, from bottom left—Chrysler, Rambler Ambassador, Plymouth, Chevrolet, Ford; top center—Imperial, Cadillac beneath; top to bottom on right—DeSoto, Thunderbird, Pontiac, Oldsmobile, Lincoln; bottom center—Continental.



LES GRILLES. Can you identify these '58 aluminum grilles? (Check list below.)



USES FOR ALUMINUM are shown in shaded areas: grille, headlight hoods, dash, door sill protectors, window frames, wheel discs, trim and bumper.

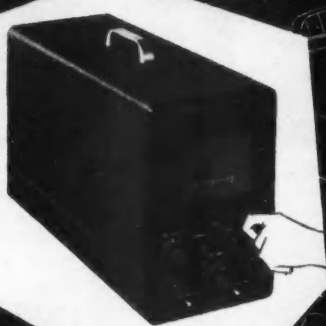


PIGGY-BACK method is used by Fisher Body and GM engineers to study road noise. Microphones in test car are connected by cable to following car.

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LIBRARY

Designed primarily for British car purchasers, *The Motor* has published a vest-pocket-size booklet giving specifications on all '58 cars of British manufacture and on all foreign cars sold in Britain. Information in its 127 pages includes details on engine, transmission, chassis, dimensions and performance on 175 makes and models. In addition to being a handy reference source, this easy-to-read booklet shows what foreign and U.S. cars cost in Britain—after their 50 per cent sales tax. Published by Temple Press Limited, Bowling Green Lane, London, E.C. 1. Cost: one shilling (14¢).

The latest addition to his more than 200 books on automobiles is Floyd Clymer's *Treasury of Foreign Cars—Old and New*. Billed as "a descriptive album of over 500 photographs of pleasure, racing and sports cars from 1834 to the present day," this informatively-edited book lists brief histories of 68 current manufacturers in 10 foreign countries, with specifications of a leading model of each—plus an intriguing section filled with chuckle-provoking and nostalgic illustrations of automotive forerunners. McGraw-Hill is the publisher; \$7.50, the price.

A new 16mm film for driver education titled "Impact" has been released by the University of California, summarizing seven years of research and experimentation in the engineering and medical aspects of automobile collisions. The 12-minute, black and white sound film sells for \$55, rents for \$2.50. Further information may be obtained from Educational Film Sales Dept., University Extension, University of California, Los Angeles 24.

Paul Frère—journalist, racing driver, automotive technician—has capitalized on this combination of talents to present a fascinating autobiographical volume, *On the Starting Grid*. He writes authoritatively and colorfully on his early experiences with motorcycles, in Mille Miglias, at Le Mans and Monza, and in Grand Prix races. The book is liberally sprinkled with many racing photographs, and contains an exceptionally enlightening chapter on "The Technique of Driving a Racing Car."

Translated from the original French by Louis Klemantaski, the book is available from its London publisher, B. T. Batsford, Ltd., for 25 shillings (\$3.50).



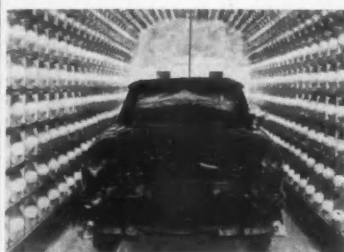
"Will you kindly ask your wife if she recalls bearing a thump on the way home?"

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MOTOR TREND/FEBRUARY 1958 13

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**THE Rumor
MILL**

"Studebaker-Packard are giving up their plans in the economy car market."

FALSE—Rumor is probably due to the elimination of the Goggomobil project under consideration for some time.

"One of the Big Three is seriously considering swing axles to take the place of air suspension."

PARTLY TRUE—Because air suspension has many problems, this company is making a serious study of new advancements in swing axles, combined with levelling devices, to give both a soft and level ride automatically.

"Edsel Division is dropping the Citation model from their line."

FALSE—No truth to this one at all, though sales are slow at this writing.

"A third foreign-built car is being considered for at least one GM division which presently has none."

FALSE—The actual rumor circulating recently was so ridiculous that we refuse to name the car said to be under consideration. Only Chevrolet and Oldsmobile could possibly be concerned, and they have their work cut out for themselves as things are now. The Australian-built Holden is frequently whispered, but—the distance involved plus a product too close to what Chevrolet offers in lower-priced six-cylinder models makes even this idea ludicrous.

"There will be no automotive industry observers at Daytona for the annual speed and performance bashes."

TRUE, insofar as the industry is taking no part. However, it would seem strange, indeed, if the industry did not have a few representatives on hand to take the pulse, as it were, of the growing numbers of enthusiasts. Detroit still has much to learn from the lads who make the annual pilgrimage to the sands of Florida.

"Despite a waiting list said to be growing, it's possible to buy a new Cadillac at a cut-rate price."

TRUE—And you don't have to try very far away from the factory either. Sales of all domestic makes are a bit slow, to say the least, and some Caddy dealers are

just as hungry as are their compatriots who handle other high- and medium-priced cars.

"Chevrolet will make their big 348-cubic-inch engine available in the Corvette as an option for the power enthusiasts."

FALSE—The presently standard 283-inch engine, with optional fuel injection specifically designed for this engine, has a greater power output so equipped than would the larger engine, which is not available with fuel injection. This is not in cards for 1958. For '59? Could be.

"Willys Motors is about to get back into the passenger car market with a new model."

FALSE—This one sounded good until a thorough check proved it wrong. This is not exactly the right time to break into the market.

"Checker's new model sedan for the family man is about ready for sale through a novel dealer organization."

NOT YET TRUE—This project is definitely in the works but the program appears to blow hot one week, cold the next. The management is very cagey about publicity, is seldom even willing to talk about the new model which is said to be under test but not quite ready for production. This one suggests the crossed-fingers attitude for sure.

"American Motors has changed its mind about offering an optional air suspension system."

FALSE—Production of Ramblers and Ambassadors with their own exclusive type of air suspension will begin early in January and cars so equipped will be in dealers' showrooms in February.

"Nylon fuel lines will make their debut in 1959."

LIKELY—Recent developments make nylon look good for fuel lines. They should have all the visual benefits of plastic, be extremely durable, eliminate screw threads in favor of pressure-fitted joints, be flexible as well as heat resistant, and probably be able to last the life of the car.



**"I've got to be sure that my brake lining really licks
HEAT and WEAR. So I use Raybestos"**

—says Jimmy Bryan, 3rd in the "500"



Jimmy Bryan averaged over 134 mph in finishing third at Indianapolis behind Sam Hanks and Jim Rathmann, two more who counted on Raybestos Brake Linings to stand the gaff in this grueling race. Says Jimmy: "This race is pure murder on brakes. Only the best can hold up under the scorching temperatures.

You've got to have a lining that won't burn up. That's why I stick with Raybestos."

With the brake lining that Raybestos manufactures for every make and model car, you get really positive brake safety. So why not take your cue from America's top drivers. Always insist on Raybestos for your car.

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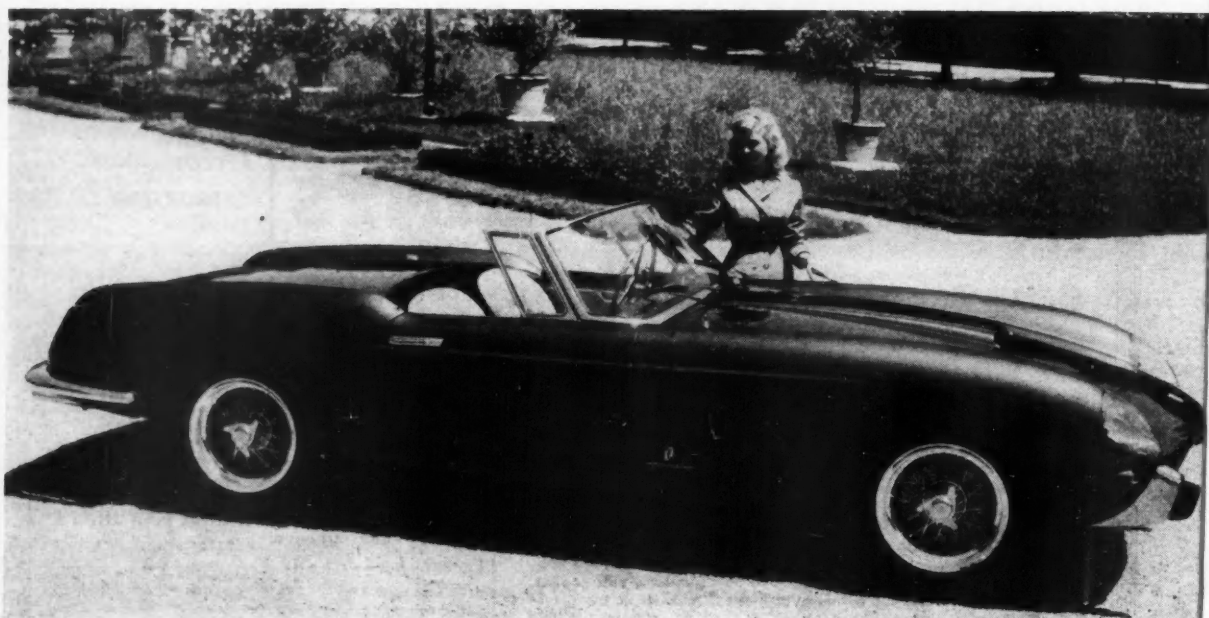


The Magician of
Maranello and his
magnificent machine



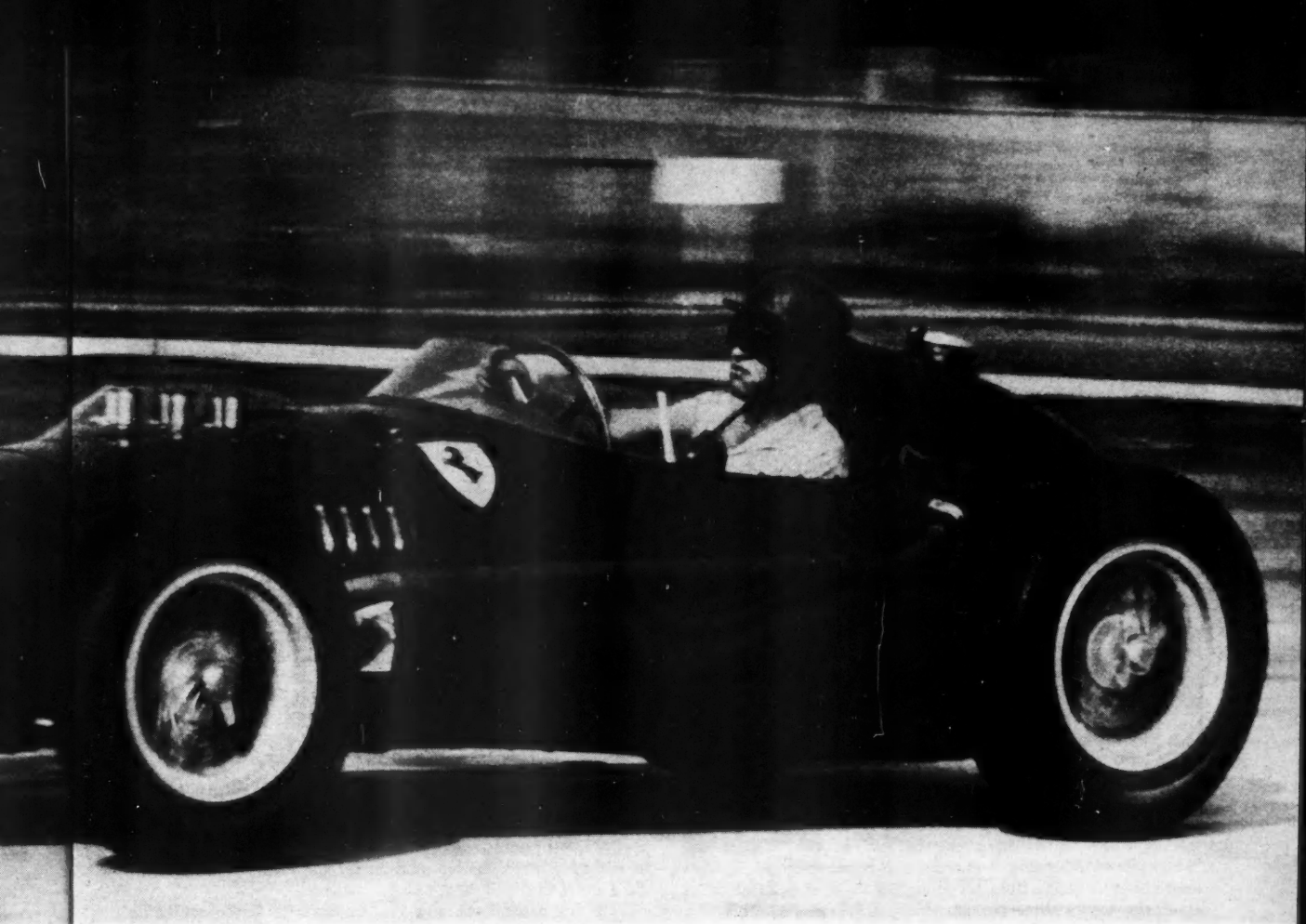
WALTER BREREGIERI

by Gianni Rogliatti



G. MANTOVANI

MECHANICAL PERFECTION of 250 Gran Turismo is augmented by smart styling and superb coachwork by Pinin Farina.



NEW PROTOTYPE Grand Prix car is essentially Formula II chassis with V6 Formula I engine, weighs 1279 pounds.

SOME 8 MILES SOUTH of Modena in north central Italy there is the little village of Maranello, which is just like many of the other villages in Europe. What makes this town different is the small factory that builds sports and racing cars that are among—if not *the*—best cars in the world. The factory is, of course, the Ferrari works.

The life story of Enzo Ferrari is an extraordinary one dedicated exclusively to cars, and mostly, to racing cars. His personality is outstanding in a world that is composed of outstanding personalities. And his work—the red cars that bear the name and rearing horse that signifies Ferrari—is the result of such a life and such a personality.

Born in Modena, where the Ferrari service works now are, Ferrari was impressed at a young age by the first cars moving awkwardly over the dirt roads. World War I came and went, and on its heels young Ferrari moved west to the automotive capital of Italy, Turin. He soon found that factory life was not for him, so returned halfway to Modena to begin an association with Alfa Romeo in Milan—an association that was to last 20 years and which was to see him rise from test driver to racing team manager.

During these two decades—the great classic years of racing—Ferrari was right in the middle of the field, directing the battle between the red Italian cars and the white and silver German cars. In 1929 he created the famous "Scuderia Ferrari," the Ferrari team, equipped with Alfa Romeos and the best drivers of the time, such as Nuvolari, Varzi and Ferrari himself, who drove until 1931.

Shortly before World War II, in 1939, the team was taken over again by the factory under the name "Alfa Corse"; Ferrari continued serving as manager. Before this time the fabulous Alfetta 158 was designed and built at Scuderia Ferrari, an eight-cylinder, supercharged racer that was to be unbeatable soon after the war. During this same period Ferrari had a second great passion—a son entered his life.

With this inspiration, the temper and character of Ferrari—fittingly exemplified in his emblem of a spirited horse—began to assert itself. No longer would he prepare and manage racing cars for *others*. So he built two prototypes of a new sports car—with eight cylinders, 92 cubic inches, but no supercharger. The car was tried at the last pre-war Mille Miglia in 1940, driven by Alberto Ascari, whose father had been killed while driving in the Alfa Romeo team at Montlhéry in 1925.

During the non-racing war period Ferrari, who had already decided to become a manufacturer, built several types of high-precision, metal-working machines that added another star to the Ferrari name. He continued making them until after 1943 when he was forced to move the factory from its original site in Modena to its present location in Maranello.

After the war Ferrari's thoughts turned to racing again. There were no good cars available, however, and the drivers had been scattered by the war. But Ferrari had many contacts, and so he asked Gioacchino Colombo—whom he knew from his earlier days at Alfa—to design "something new." And something new it was—a sports car with a 92-cubic-inch engine, but with its

continued on next page



250 BERLINETTA



continued

12 cylinders in two 60-degree banks. The engine was subsequently supercharged for Formula I use, and the first racing model had a 122-cubic-inch engine. From that point on—in only a short decade—the name Ferrari has almost become synonymous with "first" in racing circles around the world.

These past 10 years, however, have been the hardest in the life of the "Magician of Maranello," as Ferrari is sometimes called. Perhaps this title stems from his ability to make ends meet in an enterprise where there are practically only expenses and very little earnings from the sale of a few cars. It must be remembered that Ferrari is not sponsored by anyone, yet he maintains a racing stable of at least six cars for Grand Prix races, and perhaps more for other races, which means that many more are continually under construction or repair. He pays very high prices for the services of the best drivers—sometimes, as in the

case of the world champion, it seems a king's ransom. To this must be added the wages of the 300 skilled technicians who work for him and whom he calls his "associates," never "employees." (He lists nearly all of them in the book he publishes yearly, mainly to thank them for helping him pursue a dream.)

After all these expenses are paid, very little remains for Signor Ferrari. Despite rumors and beliefs to the contrary, the factory is not state subsidized, but is owned solely by Ferrari. It is claimed that there is no profit in the building of racing cars, and considering Ferrari's relatively large installation and racing expenditures—it's no wonder. Ferrari has said that were it not for his tremendous passion for the racing cars, he could be a quiet millionaire.

But this passion has now become his sole reason for being, giving him the strength to continue fighting. The other great love in his life—his son Alfredo—was shattered when the 24-year-old youth died in 1956 after a long and cruel illness, during which he managed to study engineering and to do some of the finest drawings for the new V6 engine. But at last, consumed, he died while watching on TV another Ferrari victory.

continued on page 21



250 CABRIOLET



FAST AND FURIOUS WITH FERRARI

ON OUR RECENT European trip I had the opportunity to visit Scuderia Ferrari, to meet Enzo Ferrari and—through an interpreter—talk about sports car races and racing. The interview over, he jumped up and asked if I'd like to take a ride with him in his 250 Gran Turismo coupe. Would I!

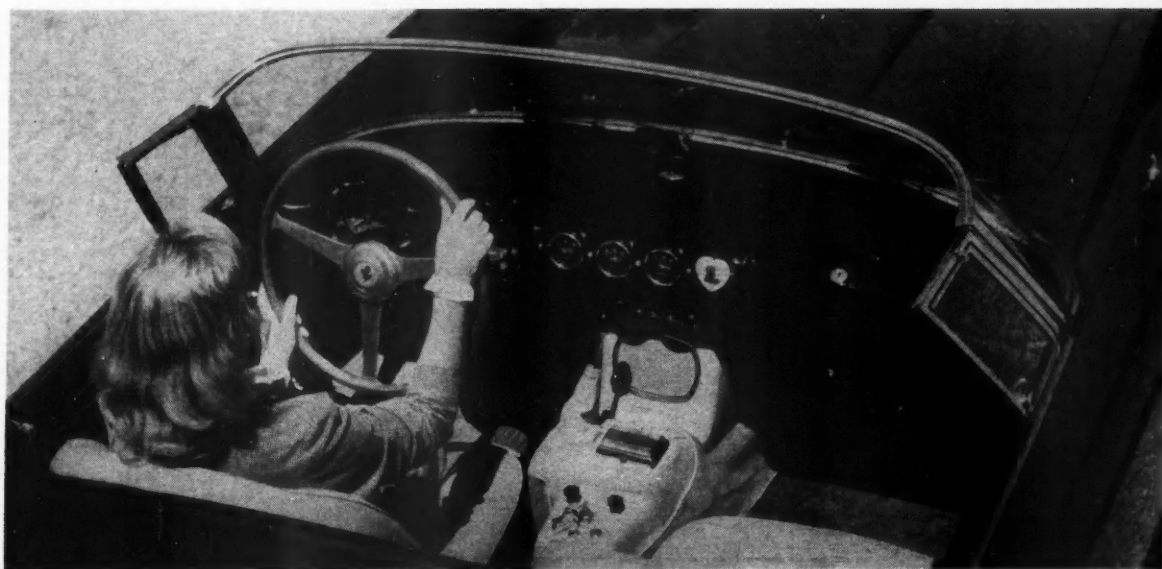
I jumped into the seat beside him, the gates to his Maranello plant opened wide, a guard stopped what little bicycle and scooter traffic there was, and Ferrari, the man, got on the loud pedal of Ferrari, the machine. Through the gears, then a couple of quick brakings to slow down the car to 1000 revs in fourth, a floorboarding of the throttle and a look toward me to see if I appreciated the fact that such a highly tuned car could accelerate so well from so low a speed. I did.

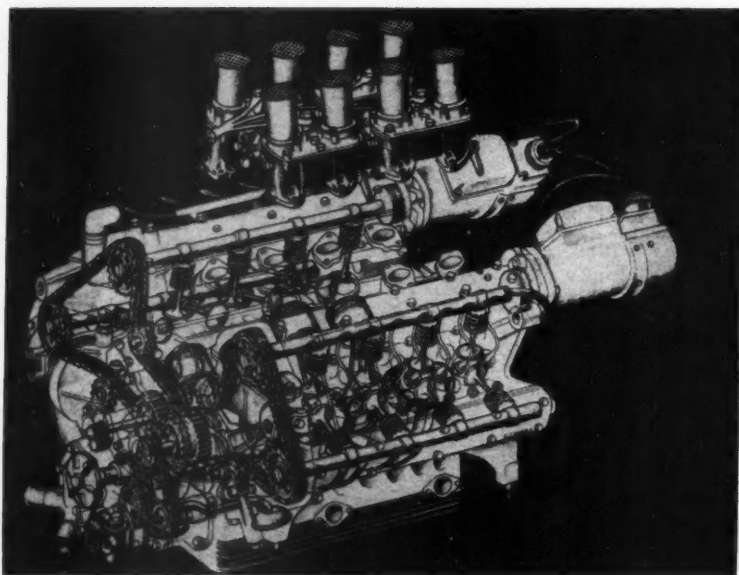
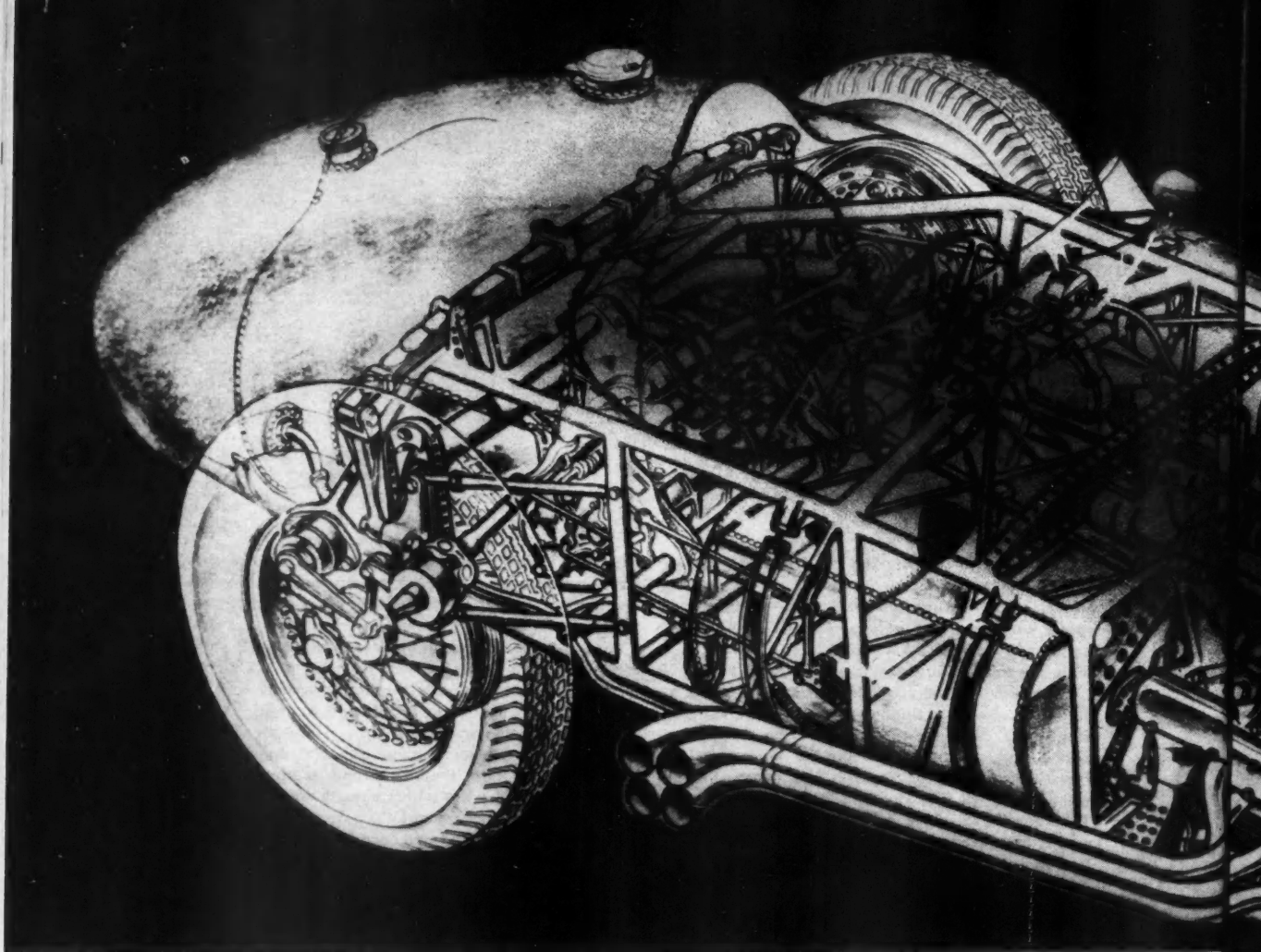
Then a slowdown through the small town of Maranello, where everyone turned to admire the

beautiful gray machine cruising by. Out in the country once more, a quick pounce on the throttle, watching the tach go to 5000 in second, quickly to third, a blind corner coming up so a bleep on the horn, a surge around that corner at an easy 70 with no squeal, no lean, no need to hang on. A bleep again to clear a path through bicyclists and a slow car, an upshift to fourth and a steady climb of the speedometer toward 90 . . . 100 mph on that narrow, twisting road, a bus looming up, a quick downshift to third, then to second, a bleep of the horn, around the bus with inches to spare between it and an approaching car!

If Enzo Ferrari had not once been an exceptionally good race driver, I would have asked to be let out then. Instead I grinned, swallowed the lump in my throat and said in my best possible Italian, "Molto bene."
—Walt Woron

INTERIOR OF 250 CABRIOLET

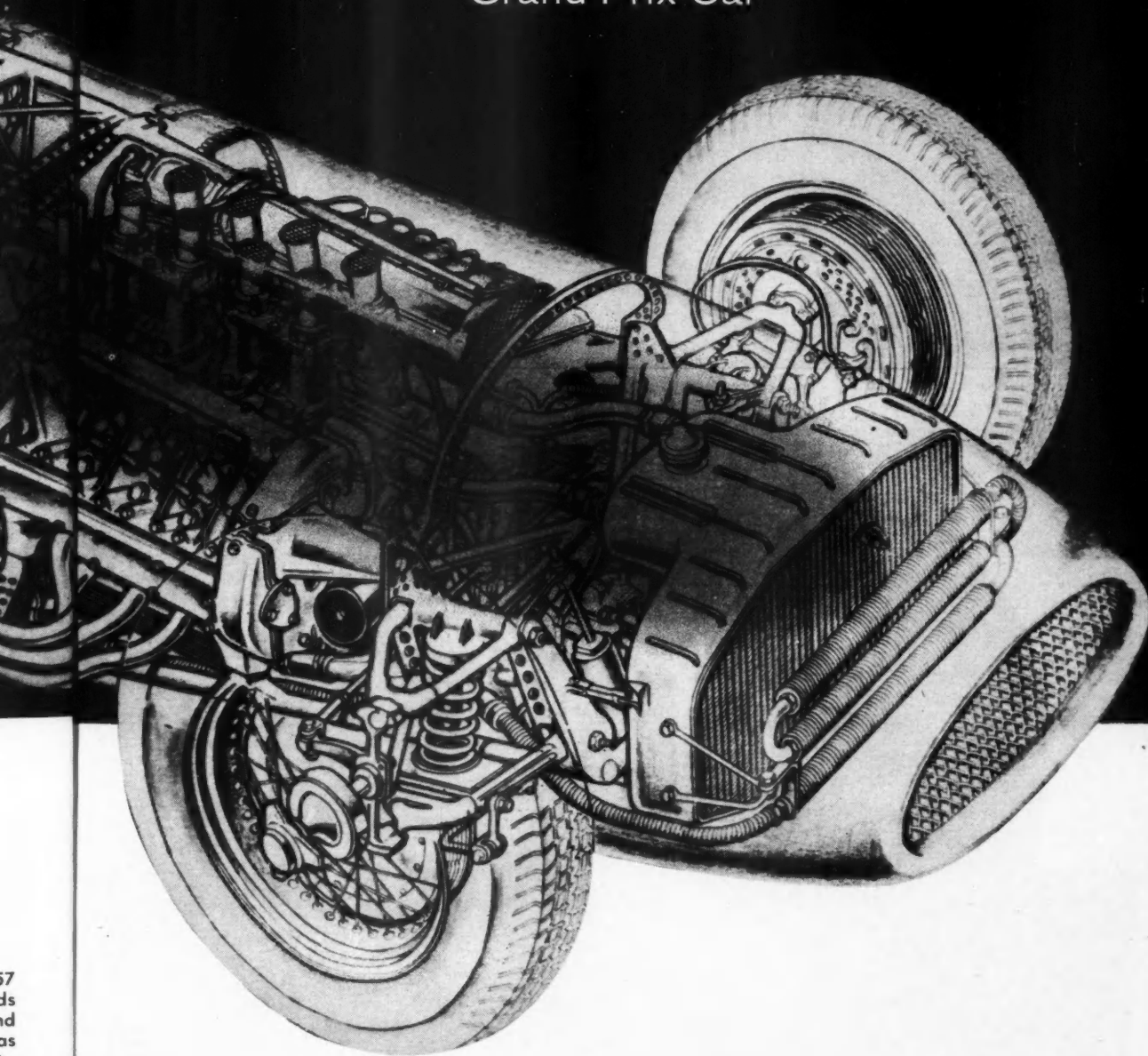




CHAMPIONSHIP CAR of the 1956-1957 seasons weighed only 1440 pounds empty, had 85-inch wheelbase and carried 45 gallons of fuel. Engine was V8 with four overhead camshafts, compression ratio was 11.5 to 1 and it developed 285 bhp from its 153-cubic-inch displacement. Top speed of this lightweight car was about 174 mph.

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Ferrari Formula I Championship Grand Prix Car



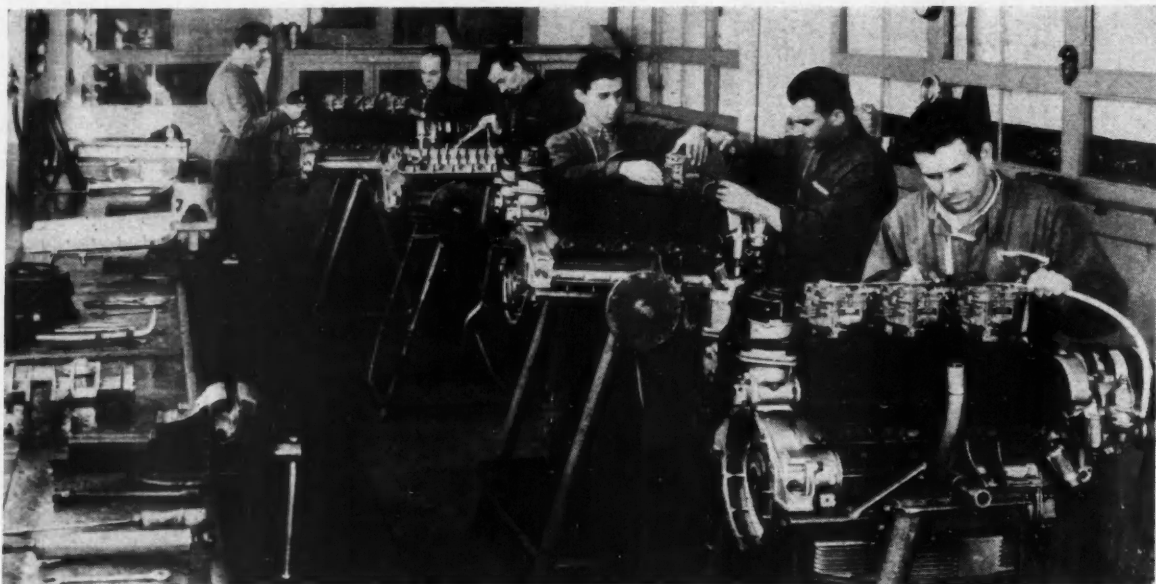
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Everyone thought that Alfredo's passing would also kill Ferrari's interest in making cars, but once again everyone was wrong—as is usually the case when it comes to second-guessing this great man. It seems that in almost everything concerning Ferrari, where others may offer advice, he often has the clairvoyance to choose the right course of action.

This has induced Ferrari to believe that he is correct even the few times he isn't, resulting in clashes with some of his associates. This may partly explain the switches in his chief designers,

and the departure of team manager Ugolini two years ago. The position of team manager in a racing concern is a key one, because he is in charge of everything non-mechanical. This is no small challenge when one realizes that this means waging a subtle, diplomatic campaign to keep the temperamental drivers happy and sober, and during the race directing the entire team strategy. And so when Ugolini (with his secret formula for booting home winners) was available, the competing firm of Maserati snapped him up to fill the same job on the Maserati team.

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COMPLETE ENGINE ASSEMBLY is accomplished by 1 or 2 men to ensure precision.

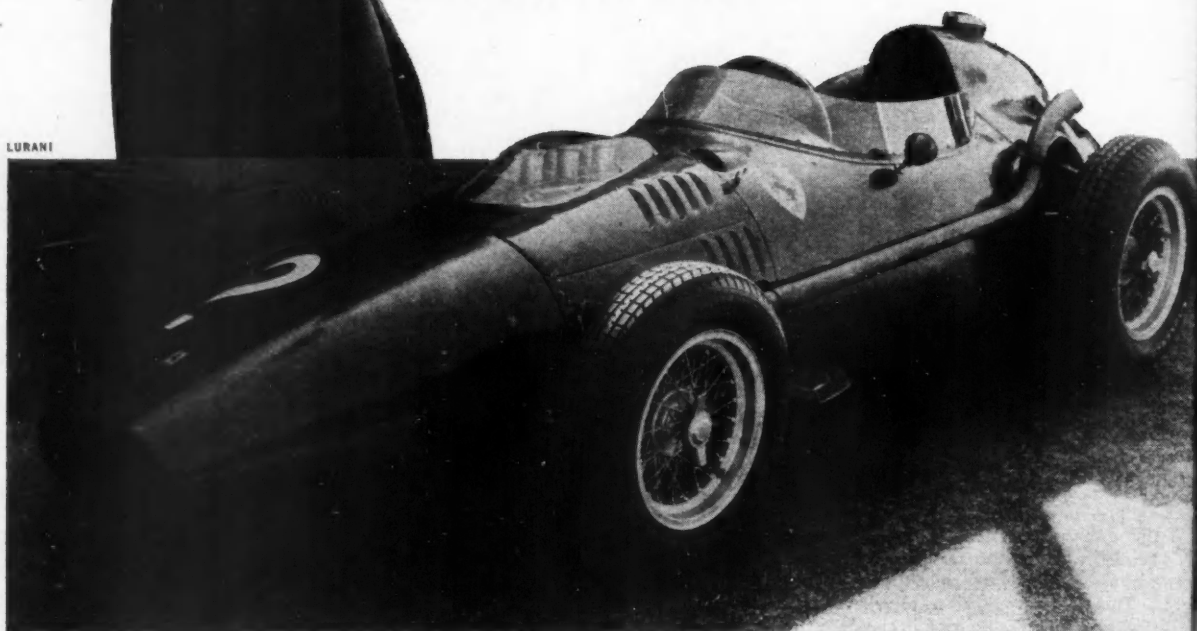


WE ASKED FERRARI why they didn't win at Casablanca . . . why the Maserati 6 beat them. The reply: "Collins went off the road, Hawthorn had to stop because of Asiatic flu, and we had only two cars."

"But what of the other races in '57 where Ferrari came in second to Maserati?" we pursued.

First, a shrug; then, "Maybe next year?"

LURANI



NUMBER on new GP prototype appears to be question mark reflecting Enzo Ferrari's thoughts. Another champion?



FINNED, VENTILATED BRAKE DRUMS and air-intake heat shield are features of new V6-powered Grand Prix prototype.



continued

Among the other memorable mistakes, there is the one regarding the Indianapolis engine. When told that his V-12 was not well suited for the Indiana track where Americans used only four-cylinder engines, Ferrari decided that a two-cylinder engine could beat the Offenhauser. He had it designed and built despite the reservations of nearly everyone else. The engine destroyed itself on the test stand as soon as it was started. And then there were the gearbox and differential failures due to putting too big an engine into a chassis designed to handle only half the power.

But these conflicts and mistakes are insignificant compared to the more than 650 victories—over 450 from outside Italy—during the past 10 years. Eight times—including the sports car category—Ferrari's cars have brought their drivers and/or builders the world championship. And these have stemmed basically from the work of one man, often alone in his decisions, sometimes opposed by many, all the time struggling to keep alive an enterprise that seems hard to believe.

In this struggle Ferrari has received rewards that have undoubtedly warmed his heart: not only the victories, but his name so honored around the world that practically everyone who drives a car would like to have one of Ferrari's, and the few who can buy one generally go directly to the factory to meet the

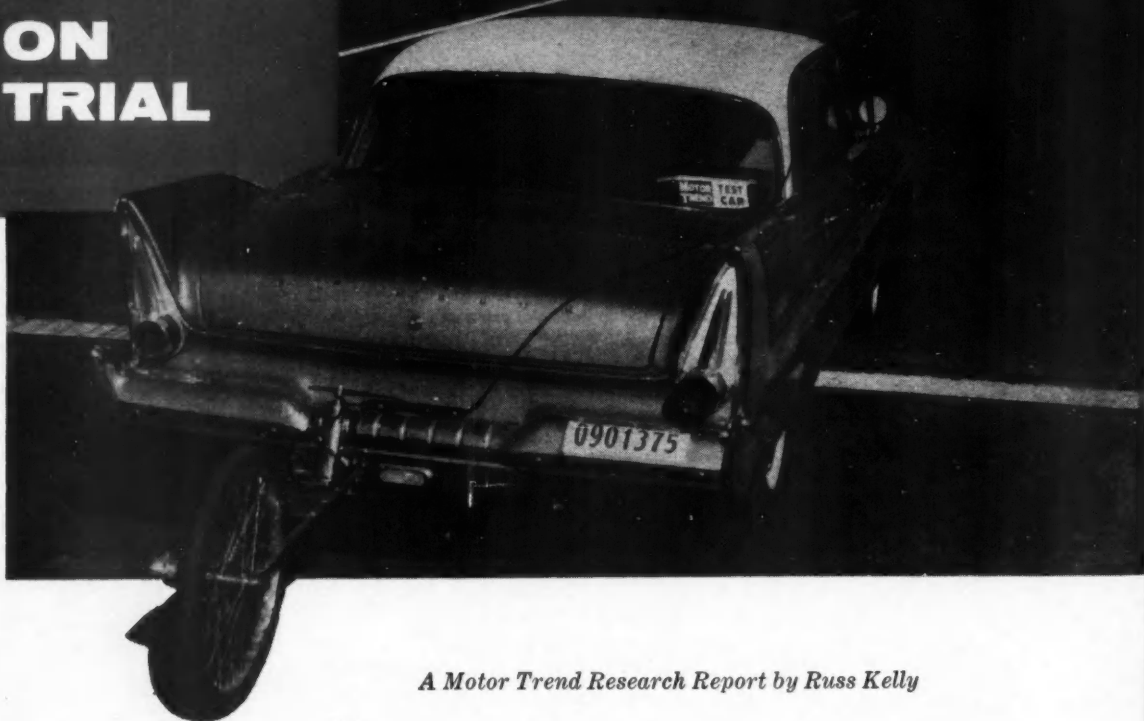
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PININ FARINA created new coupe body for big 410 Ferrari America.

GORDON WILKINS

'58 PLYMOUTH ON TRIAL



A Motor Trend Research Report by Russ Kelly

THE '58 PLYMOUTH LINE, other than station wagons, is based on the same three models as '57—the Belvedere, Savoy and Plaza. Few changes were made in either chassis or body style from last year.

This seems like a gamble but perhaps Plymouth believes its own '57 advertising. Anyway, we do have to admit that '58 is nearer 1960 than was 1957. New this year, however, is the Golden Commando powerplant, optional in all models except the limited-production Fury. This engine should make a nice talking point, especially with its name which sounds as though it should be sung to the music of Victor Herbert's "Stout-Hearted Men."

The standard Plymouth wheelbase is 118 inches. The chassis frame is formed of two boxed channel rails tied together by five crossmembers. Suspension in the rear is by semi-elliptic springs mounted outside the frame rails to give as wide a spring base as possible. To avoid spring distortion under braking and acceleration, the axle is mounted to the spring slightly forward

of the spring center. Oriflow shocks of controlled orifice design are used. Front suspension is independent by longitudinal torsion bars. The torsion bar lever and the upper control arm that carry the stub axle are of unequal length, an aid in keeping the wheel vertical and the steering constant under body roll conditions.

Engine options are varied. The new Golden Commando engine is of typical over-square layout (bore 4.062, stroke 3.375). Rated at 305 bhp, it displaces 350 cubic inches (.87 bhp per cubic inch). Dual four-throat carburetors are used to feed all these inches and progressive linkage helps keep them from being fed too well. The combustion chamber is the simple, inexpensive, easily-machined wedge type that doesn't fall early prey to carbon deposits and resultant detonation. The compression ratio is 10 to 1, and the cylinder block and crankshaft have been specially designed to withstand the heavier loads.

The Fury V-800, standard last year on the Fury, is standard this year on all models. Another over-square V8, its bore is 3.91 inches; the stroke, 3.31 inches. It has a displacement of

318 cubic inches that develops 225 hp at 4400 rpm with a compression ratio of 9 to 1. Carburetion is by a single dual-throat unit. This engine is also available with Super-Pak that boosts the horsepower to 250 hp at 4400 rpm and runs a four-barrel carburetor with a different camshaft, distributor and free-flow dual exhaust system. The PowerFlow six is an in-line flathead developing 132 hp at 3600 rpm from a piston displacement of 230 cubic inches. The six is available in all models.

There are two automatic transmissions as optional equipment. The PowerFlite, a two-speed unit, is available on all models except the Fury and 350-cubic-inch engines. The TorqueFlite, a three-speed automatic transmission, is available on V8s only.

No suspension options are listed, although the Fury does come with an extra leaf in the rear spring and larger diameter torsion bars.

THE FIRST FEEL

EXIT AND ENTRY In a profession that calls for big mileages, an average of a thousand miles a week, the car I drive plays a large part in my life. Under these conditions critical analysis is almost automatic.

This intensive use usually turns up detail faults that the normal buyer doesn't discover until he's on about the fifth of his 36 payments. For example, it is surprising how difficult it can be just to get in and out of the driver's seat in some of the new cars. The Plymouth in this respect presents no real problem for a driver of average height. However, if you prefer a seat-forward driving position, you may find yourself painfully hooking a knee into the extended emergency brake handle on entry and exit. More dangerous than a bruised knee is the possibility of accidentally releasing the emergency brake. The twist-release lever does not lock too positively and accidental release could go unnoticed. The electrically-adjustable seat once again proved the comfort value of being able to vary the seating position effortlessly.

INSTRUMENTS AND CONTROLS The instrument panel is well laid out, well lighted and can be read instantly and easily. The radio controls are convenient to the driver's hand but the glove compartment is a long reach. Just why a convenience like a glove compartment should be placed so that it is almost necessary for the driver to stand on his head to see into it, is a mystery. Groping around blindly is bad business, especially if Junior has begun using that space to store old razor blades.

The steering wheel driving position is comfortable, although many buyers may debate the advantages of dash-mounted push-button transmission control. I personally prefer the quadrant on the steering column . . . it is much easier, when traffic or

fender concentration is called for, to move a lever than stab blindly for one of five buttons. The test car had the optional instrument panel clock that proved not only dependable and accurate, but extremely convenient.

STARTING Almost the first mechanical demand that a driver makes on an automobile is that of starting the engine. The test car would never start immediately from cold. A considerable amount of throttle pumping, with the danger of flooding, was always necessary in cold starts. However, once the engine was warm, instant starts were the rule.

DRIVING IN TOWN

DRIVING POSITION In almost 1000 miles of traffic use, little fault was found with the driving position. The seats are firm, and back support is good. The steering wheel is far enough forward to prevent the arms being held at cramped angles. The brake and throttle levers are well placed but some form of rest for the throttle foot would be a help.

GENERAL FEEL The ride is excellent. In today's traffic where violent acceleration and rapid stops are the rule, a car that squats and nose dives can be very tiring. The Plymouth is entirely free of this fault. The power steering makes light work of wheeling a car that has 56 per cent of its weight on its front wheels through traffic. Although turns from lock-to-lock are low with theoretically responsive steering, this is not the case. The wheel has almost a quarter of a turn of play and the steering offers dangerously poor recovery when it is necessary to straighten out after rounding a sharp corner. All-around vision is good, but for me, one of the big changes from '57 could be repeated for '59—that of finding a new—and better—position for the rear view mirror. In its present position it effectively blanks off the right front fender. Rear seat passengers render it useless. And the outside mirror gives you an excellent look at the rear fin—but little else.

BRAKES The power-assisted brakes seem to be designed for Los Angeles traffic. Chrysler's total-contact, self-centering brakes are probably the finest in the industry and the Plymouth has 184 inches of lining area. The pedal is firm and progressive in action and it is possible to make those near-panic freeway stops without flipping the passengers through the green tinted windshield.

In brake-fade test stops from 60 mph to 20 mph at 15 feet per second per second retardation, the Plymouth brakes lasted through five stops with reasonable efficiency but disappeared during the sixth stop. Second and first gear in the box were used to stop the car. Recovery was slow but complete, the brakes returning to normal in about 20 minutes.

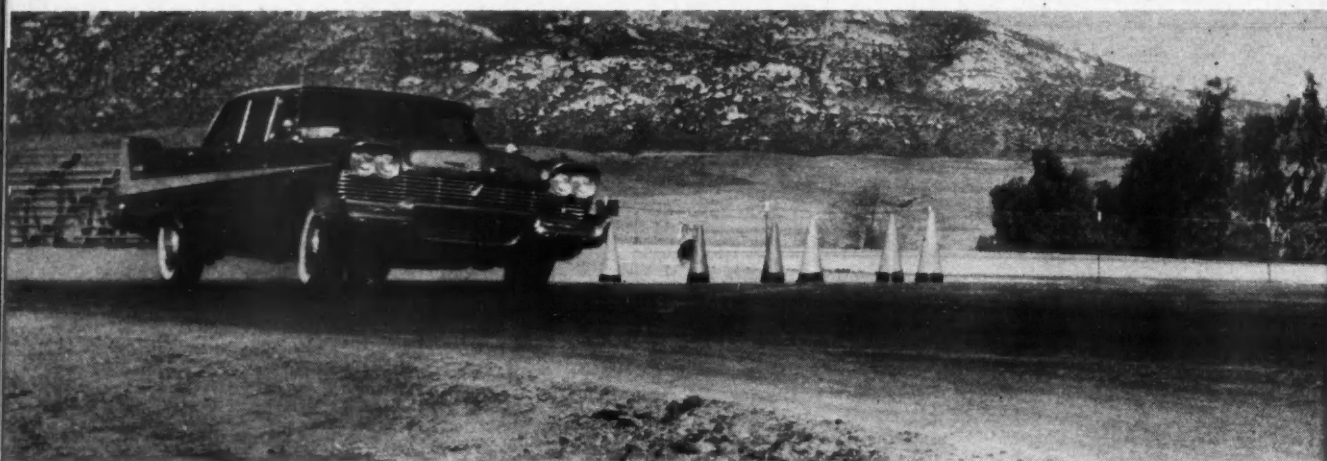
The braking effect of the engine can certainly be used to advantage with this gearbox. In these days when so many people use the family sedan as a tow car for boats, house trailers and quarter midgets, this feature is a welcome one.

TRANSMISSIONS An unfortunate feature in traffic driving is the obtrusive quality of the automatic gear changes. The gearbox when left in DRIVE shifts noticeably up and down through all three ranges at every stop and start. Upward changes are particularly bad, especially the change from first to second which is always accompanied by a lurch—the degree of violence of the lurch depending on the degree of acceleration. I also quickly learned in parking that a precautionary foot on the brake was necessary in changing from DRIVE to REVERSE to save the fenders. One factor that doesn't help with this sensitive gearbox is the rather poorly-engineered throttle linkage that seems to ride over center coming off an idle.

continued

OUR TEST CAR

A Belvedere four-door hardtop with Golden Commando engine, TorqueFlite transmission, radio, heater, power brakes and steering, electrically operated windows. It weighed 3955 pounds, ready for the road.



PLYMOUTH is a star performer in the corners. In very sharp turns it is possible to maintain higher than practi-

cal speeds without pushing front wheels or swapping ends. There is, however, some undesirable body lean.

continued

AT THE DRAGSTRIP

Any complaint about gearbox or throttle action disappears on the dragstrip. This car should give the Chevy a real run for the trophies. With an average E.T. of less than 17.5 seconds for the standing quarter, and top speeds in the 85-mph bracket for the same distance, Plymouth will be near the top at the dragstrips.

The stock TorqueFlite under full-throttle acceleration changes up from first to second at about 45 mph and from second to third at approximately 78 mph. During acceleration runs, some variation is noticeable both in the shifting point and the time necessary to complete the shift, but the difference is very slight. Some dragstrip artists deliberately vary the ratios in this type gearbox by drilling out the control orifices, but anyone interested should investigate the possibility of a factory-available modification. Incidentally, trial runs made by selecting each gear individually resulted in little difference in either the E.T. or top speed.

The introduction this year of a limited-slip differential on most high-horsepower Detroit cars (on an optional basis) serves a worthwhile purpose from the standpoint of both acceleration and safety. Called Sure-Grip by Plymouth, it is available this year with 3.31 and 3.73 axle ratios.

PERFORMANCE

'57 with 235-bhp engine

From Standing Start
0-45 mph 6.7 0-60 mph 10.7
Quarter-mile 17.9 and 77 mph

Passing Speeds
30-50 mph 4.2 45-60 mph 4.2
50-80 mph 11.5

'58 with 305-bhp engine

0-45 mph 5.7 0-60 mph 9.1
Quarter-mile 17.4 and 84 mph

30-50 mph 3.3 45-60 mph 3.2
50-80 mph 8.5

ON THE DYNO

Rear-wheel horsepower—Clayton dynamometer showed:
(Not available for '57)

32 road hp @ 2000 rpm and 32 mph
91 road hp @ 2500 rpm and 57 mph
114 road hp @ 3000 rpm and 73 mph

USING IT FOR TRIPS

ON STRAIGHT ROADS At speeds of 55 mph the test car seemed to show a definite tendency to wander. Drivers not used

to the play in Chrysler's light-touch power steering may find themselves at first fiddling slightly with the wheel to keep the car in one lane.

IN TURNS Here the best foot of the Plymouth comes forward. Few cars—even imported sports types—are as confidence-inspiring in the corners as this 3955-pound sedan. At first a little doubtful that it could be as good as it felt, I took advantage of some of the corners at the Riverside International Raceway to see if perhaps it didn't have a couple of tricks up its sleeve.

Apparently this good handling doesn't degenerate without warning. In sharp corners it is possible to steer the car around at improbable speeds without pushing the front wheels or losing the rear end. In fast corners it is actually possible to slide all four wheels with a reassuring amount of control. However, this "drift," as it is sometimes erroneously called, is accompanied by a certain amount of body lean—a manifestation of the possibility of losing control on a bumpy or wavy surface.

ON ROUGH ROADS Rough surfaces or dirt roads are easily taken in stride. Very little road noise comes through to the occupants of the car. At normal speeds, control does not suffer, an indication that the wheels are not bouncing aimlessly.

HEAT AND VENTILATION First class. Heat is available almost immediately after starting on a cold morning. The control lever for ventilation and heat is difficult to hang on to when selecting the desired range; knuckle-banging on either the keyring or in the opposite direction on the ashtray is standard.

The level of wind noise with the windows closed is very low. Even with the windows partially lowered, the noise is not objectionable. However, with the windwings open, the tendency to try to adjust out some of the noise is strong but not too successful. Perhaps it's asking too much to expect a production line car to be well sealed against air leaks or dust, but the test car was poor in this respect. Dust seems to collect almost as rapidly inside the car as outside.

RIDE Plymouth's boast that it has the smoothest, easiest-riding low-priced car is well founded. There is very little pitch or roll even under adverse conditions. The ride is smooth and soft without any sensation of floating. Very little vibration either from the road or the engine is evident.

FUEL ECONOMY

'57 Belvedere

Stop-and-Go Driving
12.0 mpg for 80 miles
Highway Average
15.0 mpg for 806 miles
Overall Average
(Not available for '57)

'58 Belvedere

12.1 mpg for 1150 miles
17.1 mpg for 200 miles
13.7 mpg for 1350 miles

Fuel used: Mobilgas Special

SERVICING

ENGINE Service has been simplified this year with the relocation of the distributor, generator, fuel pump, oil filter and voltage regulator. While all the under-the-hood servicing has been well thought out, something happened at the rear. It seems impossible to fill the gas tank without it regurgitating a quart or so

of the fluid just poured in. Station attendants even though aware of this idiosyncrasy, were often caught by surprise.

CONCLUSIONS

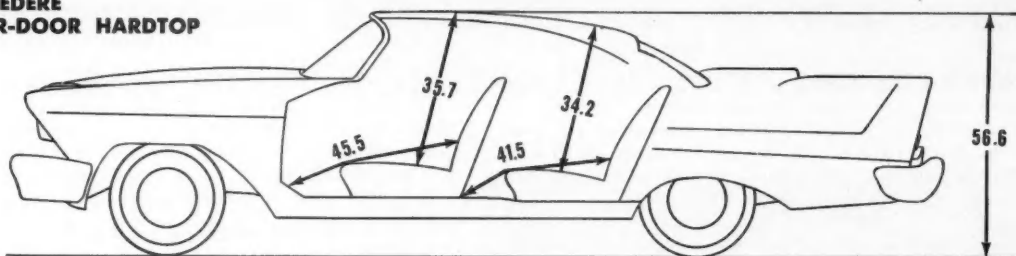
ITS BEST POINTS The best points of the Plymouth are still its ride and its handling. The brakes are excellent within the strict limitations of normal driving. The gearbox would be outstanding if it were only a little smoother and were equipped with some sort of PARK provision.

During the test two other models in the Plymouth line were driven for comparison purposes—the Savoy with the 318-cubic-inch V8, and the Plaza with similar engine.

The Savoy, in appearance and fact, differed from the Belvedere only in trim and horsepower. The Plaza, however, carried none of the options such as power steering or power brakes. The gearbox for the Plaza was a two-speed PowerFlite.

In driving these other models a couple of interesting things came to light. The two-speed PowerFlite seems smoother in traffic. The Belvedere characteristics least missed are the extra horsepower and power brakes. Missed most is power steering. /MT

BELVEDERE FOUR-DOOR HARDTOP



SPECIFICATIONS OF TEST CAR

ENGINE: Ohv V8. Bore 4.06 in. Stroke 3.38 in. Stroke/bore ratio 0.83:1. Compression ratio 10.0:1. Displacement 350 cu. in. Two 4-bbl carburetors. Dual-breaker distributor. Dual exhaust. Advertised bhp 305 @ 5000 rpm. Bhp per cu. in. 0.87. Piston speed @ max. bhp 2813 ft. per min. Max bmep 159.4 psi. Max. torque 370 lbs.-ft. @ 3600 rpm.

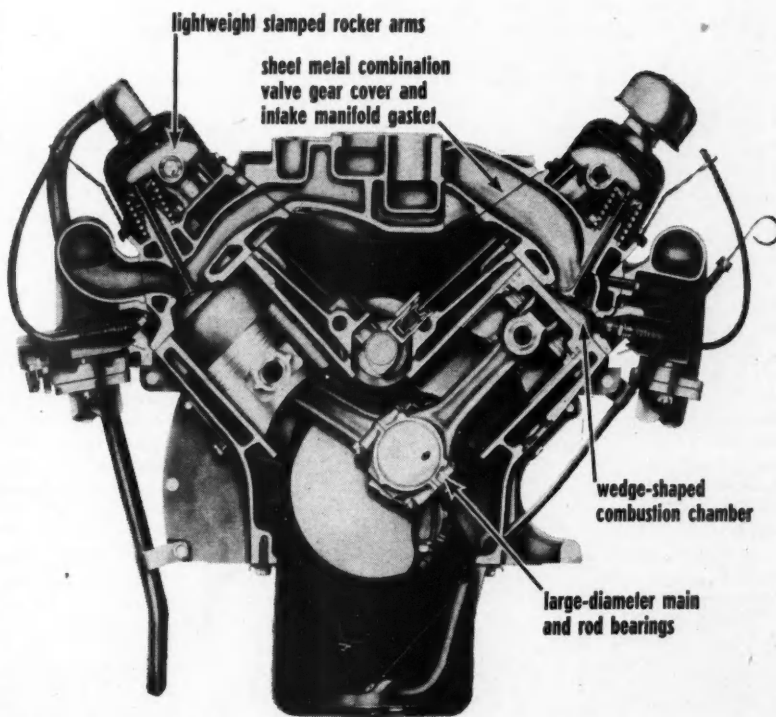
TRANSMISSION: TorqueFlite, automatic three-element torque converter with planetary gears; ratios 2.45:1, 1.45:1, 1.00:1.

CHASSIS: Front suspension—-independent, lateral, non-parallel control arms with torsion bars. Rear—unsymmetrical, semi-elliptical leaf springs. 7.50 x 14 tubeless tires. Power steering, rack and sector, 3.5 turns lock-to-lock, overall ratio 19.1:1, turning diameter 42.3 ft. Rear axle—Sure-Grip limited-slip differential, ratio 3.31:1.

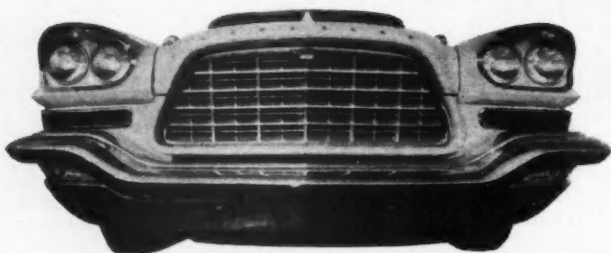
DIMENSIONS: Wheelbase 118 in., overall length 206, overall height 56.6, overall width 79.3, front tread 60.9, rear tread 59.7, rear overhang 55.2. Weight with gas, oil and water 3955 lbs. (56% front, 44% rear), weight/bhp ratio 13:1.

PRICE: Factory-suggested retail price of test car equipped as described including federal tax but not state and local taxes, delivery and handling charges or freight \$3432.

ACCESSORIES: TorqueFlite \$220, PowerFlite \$180, power steering \$77, power brakes \$38, two-way power seat \$48, power windows \$102, radios \$73 and \$106, heater and defroster \$69, padded dash and visors \$24, tinted glass \$32, air conditioner and heater \$446.



TEST CAR had Golden Commando engine with wedge-shaped chambers.



How hot is the CHRYSLER 300-D?

Truly "a man's car"—with brute horsepower,
firm ride, precision quality

by William Carroll

HOW HOT IS THE 300-D? It isn't—if you have to impress curb sitters with rubber-burning wheelspin.

No showoff, the big "D" is a true sportsman's car, built with the velvet precision of a fine gun and loaded with a V8 powerhouse designed for one purpose—to go, and go, and keep right on going until you run out of road. For example: During 1957's Daytona Speedweeks a 300-C set top time in the Flying Mile on Wednesday at 134.128 miles an hour. The next day another 300-C tapped fastest time of the day in Measured Mile Drags (on sand) with 86.873 miles an hour.

Our MOTOR TREND test car was a brand-new Tahitian Coral 300-D convertible, the 250th "D" built for 1958. It had only six miles on the odometer. With power seats, brakes, windows, antenna, heater, radio, tinted glass and valuable Sure-Grip differential, weight totaled 4523 pounds.

It was two days later in a rainstorm (the 300's fins were throwing feathers like a Gold Cup racer) before I began thinking about "feel behind the wheel." It's a man-size 17-inch steering wheel, which with power steering ($3\frac{1}{2}$ turns lock-to-lock) flips the Caddy-sized 300 around like a Corvette. The dash layout is filled with instruments and gauges (no tach); Torque-Flite buttons are easy to reach. Both pedals fall naturally underfoot. The accelerator has a mushy feel compared to other hot cars; but once you begin opening the second carburetor, intakes sound like you're moving a hundred miles an hour. Hold the button down for 25 seconds and you will be.

Once moving, the 300's huge 9.00 x 14 nylons slap at tar strips with solid authority. The low-speed ride is rough on city streets, solid on highways up to 85 or so, and just right at anything you can run over that. There's no body or chassis vibration from either engine or suspension. Dirt or rough pavement, when traveled fast enough to keep tires out of chuckholes, feels as secure as pavement. Belting over grade crossings at 70 caused as much steering disturbance as a bug smacking the windshield. The car *can* be broken loose on corners but the driver would be way over his head when it happens. The entire package is an impressively-engineered, confident automobile that knows it's good—and soon lets you know it too.

By the time we reached Los Angeles the log totaled 2577.1 miles and gas stubs 189.2 gallons of Mobilgas Special. Mileage figured to 13.6 mpg at our average cross-country speed of 58.9 miles an hour. Best was 17.6 mpg on an Illinois turnpike, lowest 11.9 crossing New Mexico. In comparison, the big Edsel with 345 hp and 410 cubic inches (the "D" has 380 hp and 392 cubic inches) turned 11.7 mpg at an average cross-country

speed of 48.65 mph. A short cross-country test of a 300-hp (370-cubic inch) Pontiac Tri-Power tallied 17.3 mpg at an average speed of 58.25 mph.

In dragging from a standstill our 300-D stands near the head of the class, but is certainly no trophy thief. Here's how it stacked up with two cars recently tested:

IN DRIVE: Automatic upshift at full throttle

Pontiac Tri-Power	$\frac{1}{4}$ -mile in 17.1 seconds @ 87.6 mph
Chrysler 300-D	$\frac{1}{4}$ -mile in 17.9 seconds @ 85.3 mph
Edsel Corsair	$\frac{1}{4}$ -mile in 18.4 seconds @ 80.7 mph

What's sensational about a \$5600 car that neither flies nor swims might be decided through comparison with its brother, the Chrysler New Yorker convertible (\$4760). Both are identical as to physical dimensions, body, chassis metal and quality of finish. Built on the Imperial assembly line, 300s are lavished all the attention given a well-finished car.

Front wheel suspension ties to 1.11-inch-diameter high-rate torsion bars (1.04-inch under the New Yorker) and heavy duty shocks. Rear axle members are the same as on the New Yorker except for springs and a bushelbasket of ratios. Optional at no extra cost are: 2.93, 3.18, 3.54 and 3.73 to 1. Unless you specify, the factory sticks 3.31 to 1 under both hardtops and convertibles. Rear springs have the standard number of leaves but each 300 leaf is thicker.

Power brakes are standard, with 12-inch drums and 21½-inch-wide lining both front and rear. The 251 square inches of 300-D brakes is second only to Lincoln's 297. Chrysler's Center-plane brakes are exceptionally smooth as shoes contact the drums evenly, resulting in a well-braked stop. Sad part of the action is that 14 x 6½ wheels and rims so thoroughly cover the brake drum that cooling is just about non-existent.

In the engine house, changes from the 300-C of 1957 include a new cam that improves low speed characteristics, altered valve lift and heavier pistons. High intensity camming gives 435 pounds-feet of torque at 3600 rpm (New Yorker has 450 at 2800) and 380 horsepower at 5200 (New Yorker has 345 at 4600).

Carburetion of the 300-D has only calibration changes from the successful "C" of 1957. High-speed calibrations were improved to match the new 10 to 1 compression ratio (up from 9.25 to 1) and camshaft. Part-throttle changes were made on the basis of road tests providing a lively car and good gas mileage. The accelerator first opens both primary throats of the rear carburetor. As pressure increases, primaries of the front

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carburetor open. When the engine reaches 2000 rpm, velocity blades and secondary throats of both Carters start to open. Fully open at 3000 rpm, they are pitching gas from all eight throats. Eighty-five miles an hour can be maintained easily on *only* the two primary throats of the rear carburetor, which accounts for the excellent gas mileage obtained during our test.

The 300-D exhaust manifold has a larger cross section ($2\frac{1}{2}$ vs. two inches) than others in the Chrysler line, with $\frac{1}{4}$ -inch piping to the muffler and a two-inch-diameter tailpipe under the hardtop. Convertibles use the New Yorker exhaust system— $1\frac{3}{4}$ inches all the way—because of interference with the "X" frame.

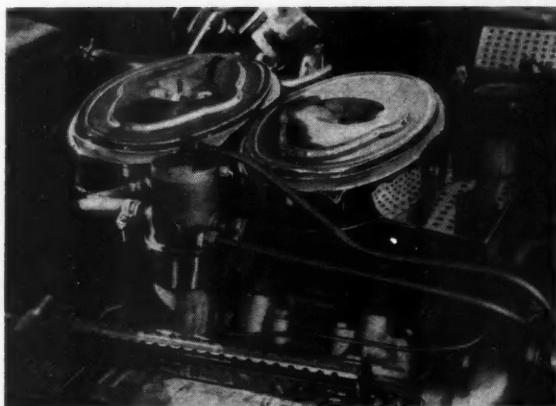
The Bendix Electrojector (390 horsepower and 40-amp generator) is an extra-cost option available only on the 300-D at about \$500. Bendix system is unique in being electrically operated with electronic control of the quantity of fuel metered to the engine. In general it is a system wherein fuel is supplied at constant pressure and metered into the manifold by electrically-operated injector valves.

TorqueFlites used in 300-Ds are modified to provide five mph higher shift points. Capacity of the rear clutch is increased by stiffening the return spring and altering the kick-down servo. The driveline is identical to the New Yorker except for a high-speed rubber boot over the universal joint to keep grease in place at high rpms. Goodyear Blue Streak Nylon racing tires (9.00×14) are standard equipment.

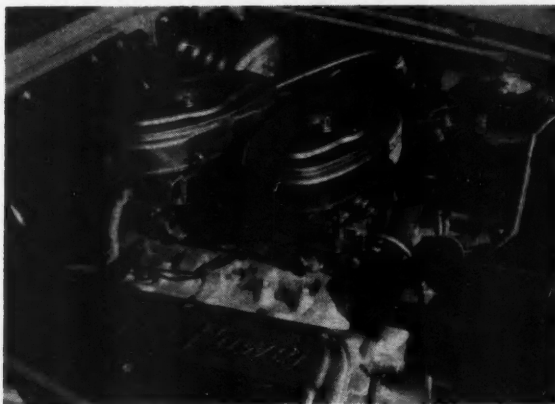
In the option department there's little to buy, as nearly everything is included in the base price, though for \$100 extra you can arrange to shift your own gears. With the same option (?) you lose power-brakes and power steering which were on the car.

What Chrysler offers usually astounds many a first-time 300-D driver. One of the two (Corvette's the other) honest-to-goodness sports cars built in Detroit, this Chrysler is a hard-riding and handsome high-performance traveler. For don't kid yourself, this is a specialist's car. Few drivers will ever exhaust its ability and even fewer know for sure what to do with dual four-throats or an Electrojector. You may be unhappy with speedometer reflections in daytime and turn indicators that blind you at night, but it's a rare demand you can make of a 300-D that will not be fulfilled.

/MT



FLASHY CHROME identifies Bendix Electrojector fuel injection Firepower engine with 390-horsepower rating.



TINY AIR FILTERS on the 300-D dual Carters are designed to produce throaty power throb at full throttle.

TWO MONTHS AGO I drove the cars all America is talking about today: the uncompromising 1958 Thunderbird Hardtop Model 63-A. It seats four passengers, has 300 horsepower, a 113-inch wheelbase and a brand-new unitized body.

This is really a three-year-old story of dream cars come true, beginning in early 1955. Ford's Market Research Group has released answers to their survey: "What do 1955 Thunderbird owners want—that they don't already have?"

The answers: People want a car with room for four passengers. More luggage space. Larger doors. More passenger and driver comfort.

Following these suggestions Ford's Styling Section drew an entirely new Bird. By late 1955 the Thunderbird Engineering Department (as many as 2000 specialists) was in full cry after their target date. With a design and educated guesses as to what would sell, production was scheduled for 1958.

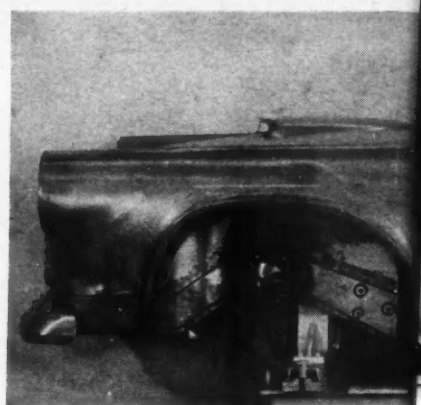
First efforts were along lines of the early Bird, *i.e.*, modified Ford frame, chopped, channeled and plated Ford body panels. But expanding the old body to a four-passenger unit proved nearly impossible. About this same time Lincoln drawing boards were hot with plans for the 1958 unitized body. And someone at Ford heard of it.

Picking up Lincoln's project like a found dollar, Ford engineers tossed aside compromise construction and began to design a unitized Bird from the inside out.

First, four passengers in *complete* comfort. Second, a low car with doors wide enough for the most awkward. Finally, an interior safer than any other car. Of course it had to "go," but this was up to the engine designers. With basic requirements in mind, engineers began noodling around the design load of four passengers, 300 pounds in front, 300 rear. Quite an improvement over the two-passenger 400-pound design load most hardtops are expected to handle.

The car's style proved ideal for unit spotweld construction. Engineers began with a flat floor pan using the driveline tunnel as a stiffening member of the platform. Next, six-inch-deep siderails were set along edges of the floor creating a step-down effect. The cowl area, and its built-in air intake became a massive stiffening member for the front, while the rear deck and quarter panels were stressed to further wiggle-proof the body. Finally a Continental-inspired top was spotwelded to the body and windshield frame, completing one of the strongest units Ford has ever built.

April snow was melting in 1957 before the Thunderbird (no longer Ford) group completed the first engineering prototype. Unlike cars displayed to the public a short time ago, this early design (of which several were built) had 1956 Ford rear fenders with a Continental flair aft of the doors. A molded belt line ran from front to rear as on the '57 Bird. Torpedo sculptures (now laid along the bottom of each



UNITIZED PROTOTYPE T-Bird is not

door) were in this original model laid only along the lower edge of the rear quarter panel. Nor was there any sculptured effect (like Lincoln) running from headlight brow to the door. Not the best-looking car, but a good start in a style-wise direction.

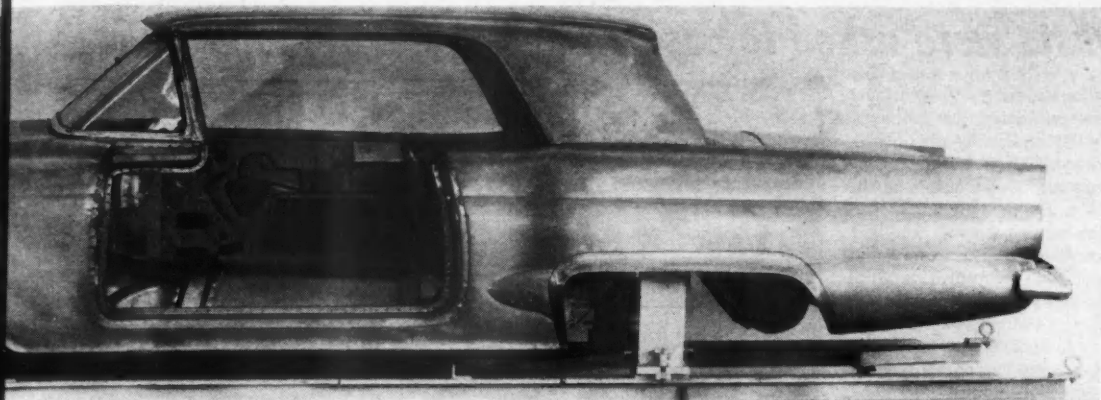
Engineering-wise the car was downright radical. In construction of the body engineers used what is called a "torque box." It's a reinforced area at each lower corner of the body where stub frame rails are attached. Not only does the torque box absorb road stresses from the suspension-carrying rails, but it provides the means by which a unitized body may be restyled year after year at minimum expense. Only

THE '58 THUNDERBIRD



*An attempt to
bridge the gap from
"a personal sports car"
to "a prestige
automobile"*

by William Carroll



identical to 1958 model. Note short torpedo across rear wheel opening and forward-leaning door frame.

front stub rails need be changed for improved engine mountings. Fender sheet metal and hood panels can be altered yearly and the rear stub frame can be lengthened for changes of wheelbase or trunk depth. Even the dash is bolted in place to make alterations easy.

Underneath, chassis engineers were having a field day. And a couple of headaches. A smooth underbody reduced wind resistance and noise, but left little room for mufflers and suspension members. Relief came when dual reverse-flow mufflers found a home behind the rear wheels. Then a crossover pipe was inserted in the system up front to reduce rumble and corrosion. Ford claims the lowest back pressure they've ever had.

Basic coil spring suspension is Ford, with differential, driveline and brakes borrowed also from the younger brother. Rear end stability is controlled by trailing arms (bushed to the housing by rubber "pucks" to control axle windup) and upper links of the system. Costs were cut

by using the same link for both left and right sides of the suspension assembly. Because automatics are easier on rear ends, upper links are omitted from automatic-transmission-equipped cars. Optional air suspension appears to be a slightly modified Ford unit. Outboard mounting of front shocks (rears are inboard and tilted to the center) left plenty of room for installation of rubber and nylon air bags.

Contributing to the Bird comfort is a new function given the shock absorbers. Formerly, lowered cars suffered from an atrocious ride because there was little room left for suspension members to move up and down. A bright Ford engineer noticed that most systems used rubber rebound blocks two or three inches thick. Reasoned he: remove the blocks, design shocks to limit wheel travel (in place of the blocks) by means of hydraulic fluid and you could use space vacated by the rebound blocks to further lower the car. Result: the Bird has nearly as much spring action as other Ford products, but is lower than any.

Then came the tests to prove what had been built. One of the four engineering prototypes (completed April, 1957) was not to have a happy life. First stop: Kingman, Ariz., at Ford's rugged desert test track. A special five-mile course was prepared for the Bird's "run for the junkpile." The run: a mile of railroad ties planted to simulate chassis-busting curbs and four paved miles to let the driver rest. So rough, that even the most hardy test driver could hold out for no more than five trips after which a fresh crew took over to beat the Bird to death. Round and round they went (the frame of a competitive sedan broke at 150 miles) with frequent inspections made for failures and driver changes every 25 miles. At the end of 1500 miles the prototype and a 1957 Thunderbird running with it for direct comparison were taken to the garage. There, precise measurements by the staff disclosed the new unitized body structure had given way an almost unnoticeable 1/16-inch more than did the frame of the companion '57. Still



THUNDERBIRD released for production has Lincoln's sculptured fender, Ford's grille and the Continental's

top. Careful analysis of Bird's design and engineering will disclose it to be a small edition of '58 Lincoln.

'Ford stylists were asked to design their 'dream car.' This is it.'

continued

not satisfied though the 1/16-inch hurt nothing, engineers ordered the prototype Bird to Ford's test area at Romeo, Mich., where, with over 40,000 miles on the odometer, it was still bouncing around the durability track as this is written.

A lady's life was led by the prototype sent to Styling. It was finished and refinished, chromed and dechromed between showings at countless management meetings. From these meetings we heard rumors of a sample convertible, which was not approved for production, but which might be in the 1959 lineup.

The fourth prototype was belle of the Experimental Garage, alternately pampered, beaten, altered and nursed. It holds the record for performance on Ford's Dearborn Test Track, and this is the car most everyone drove. So did we.

But what a disappointment!

The test engine (some 350 horsepower but not scheduled for production) pulled the hardtop along at a rapid rate. Acceleration was good (0 to 60 in 8.9 seconds) with the quarter-mile being covered in 16.6 seconds at a solid 91 miles an hour. Passing times averaged 3.4 seconds from 35 to 50 and 5.2 seconds from 60 to 80 although the single four-throat was acting a bit rich. The ride was awful—somewhat like a farm cart. However, with super-stiff springs and shocks there was little one could do in the handling department (4.1 turns lock-to-lock) that caused control trouble. But my, it was a rough car.

Driving the worst didn't do much for my enthusiasm. After repeated requests Ford came up with something better, car number 5. The fifth production prototype—built on an assembly line—had only 26 miles on the odometer and inspection shortage tags all over the dash. But this was it. Here was the type of car Ford expects you to buy.

Behind the wheel my previous disappointment evaporated. The engine was quiet, muted by a successful combination of deadeners, Fiberglas plus aluminum sound barriers, and rubber, all of which pushes the noise level down to Lincoln quality. The Cruise-O-Matic (with 3.10 to 1 rear end ratio) functioned smoothly and brought us up to speed with the smooth shifts of a well-adjusted automatic. Zero to 60 ticked off at a nominal 13.5 seconds (10.5 if you shift from D1 to D2 at 50 mph) and the quarter-mile was tagged out at 81 miles an hour in 16.8 seconds. Passing speeds were clocked as follows: 30 to 50, 4.6 seconds; 45 to 60, 3.9; 60 to 80, 7.9.

Runs over the ride test road disclosed the usual "Fordy" solid ride. Cornering was established as above average with the bucket seats doing a wonderful job of keeping the fanny in position while trying to rip tires off around the track's even-radius curves. With four passengers (total



DREAM CAR design comes true with window controls, ashtrays and radio speaker in console between four genuine and comfortable bucket seats.

600 pounds) weight distribution is an even 50/50. Wheels and tires are factory balanced to insure safe performance from the first mile.

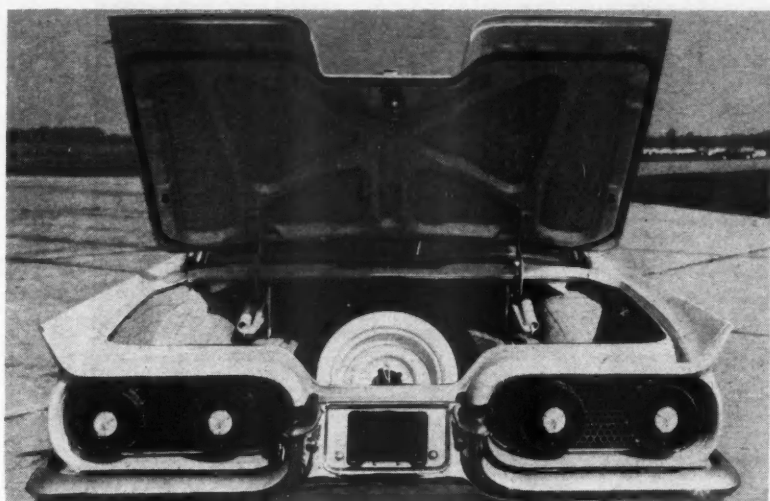
Technical specifications of the standard Bird include a 352-cubic-inch, 300-horsepower V8 with single four-throat carburetor pulling cold air through a hood scoop. It looks a great deal like the small Edsel engine and uses hydraulic lifters, although at first Ford was planning to use mechanical pushers. The aluminum coating on in-

take and exhaust valves has already demonstrated an astounding ability under the most severe tests.

In the brake department Ford has gone all-out. Their brakes require plenty of pedal pressure but function without argument or backtalk. Secret of the improvement is the rear brake-shoe in each wheel. There are three segments of lining on each rear shoe, two of which are lengths of standard lining. Between the two lengths is a 3/4-inch-long piece of Cerame-

HOW THE '58 THUNDERBIRD COMPARES

	'58 T-Bird	'57 T-Bird	'58 300-D	'58 Cadillac 62
Wheelbase, in.	113	102	126	129.5
Length, in.	205.4	181.4	220.2	216.8
Width, in.	77	72.8	79.6	80
Height, in.	52.5	51.6	57.3	59.1
Max. bhp @ rpm	300 @ 4600	245 @ 4500	380 @ 5200	310 @ 4800
Max. torque @ rpm	395 @ 2800	332 @ 3200	435 @ 3600	405 @ 3100
Compression ratio	10.2:1	9.7:1	10.0:1	10.25:1
Front headroom	34.5	33.6	34.4	34.2
Rear headroom	33.3	—	33.7	34.0
Front legroom	43.4	44.9	45.5	44.6
Rear legroom	38.0	—	38.0	41.0
Weight	3869	3440	4390	4675
Minimum road clearance	5.8	7.1	5.6	6.4
Factory price	\$3600 (Est.)	\$3408	\$5108	\$4784



BROAD SHALLOW trunk holds spare tire and 20 cubic feet of space. Tilted tire well limits ground clearance to 5.8 inches. Quad tail lights all burn at once.

talix matching the standard lining in width and thickness. Ford engineers assured me there is no danger of drum scoring from the metal block and plenty of safety in heat-resisting properties of the insert. Effective brake area is a nominal 193 inches, more than a Ford but not up to Mercury's 223 square inches. But no one in the Ford family can match brilliance with the Bird's four 32-candlepower stoplights.

"Widest doors in the industry," says Ford, and I believe them. Seems almost like pulling a side (48.8 inches of it) off the car. Duck a little to get in, or better yet use the sports car technique of backing onto the front seats. This is where comfort begins. Each of the four seats (two separates in front and two-in-one

for the rear) is an honest-to-goodness bucket job. Soft springs in the center and back allow your body to drop into (rather than sit on) the cushions. Then you become conscious of foam rubber cushion edges which ride up around your thighs and back to provide the most comforting support of all '58s. As one engineer said, "It's almost like riding with someone's arms around you." (How nice.)

The driving position is low and steering wheel high, a typical relationship of Ford productions. Vision is excellent in all directions, partially because front and rear glass is set into the body rather than on a rail as is common practice on production cars. An interesting cost reduction and safety feature is that only the driver's seat is movable. All others are screwed to the

floor, unless you wish to buy seat tracks for the front passenger. The next thing I noticed was fully covered trim. All interior metal (except chrome styling strips) is covered with vinyl plastic which is glareless and easy to clean. The fully-padded dash (standard equipment) has two huge safety brows over the instruments and glove box. The driveshaft tunnel was at one time intended to carry all control switches and levers. But high cost ruled the idea out and now there is only a centrally located electric window lift control panel, two ashtrays and radio speaker grille.

Options are few. Other than the usual choice of overdrive or Cruise-O-Matic, there is a radio, heater, power brakes, steering, seats and windows, air suspension, heavy-duty shocks, shims to increase ground clearance, backup lights, heavy-duty battery and generator, electric clock, fender ornaments, non-glare mirrors, tinted glass and paint options.

Hatching the Birds is a novel project involving two separate plants. The bare body is constructed by the Budd Co., Philadelphia, Pa., and is shipped to the Lincoln assembly plant in Wixom, Mich. At Lincoln, Birds are dunked in primer, move down the same assembly line with Continentals and Premieres to be assembled and painted by Lincoln specialists. The only time a Bird separates from the line is when interiors are installed. For this operation a separate line is used, then back they go to the Lincoln line for completion, inspection and testing before shipment.

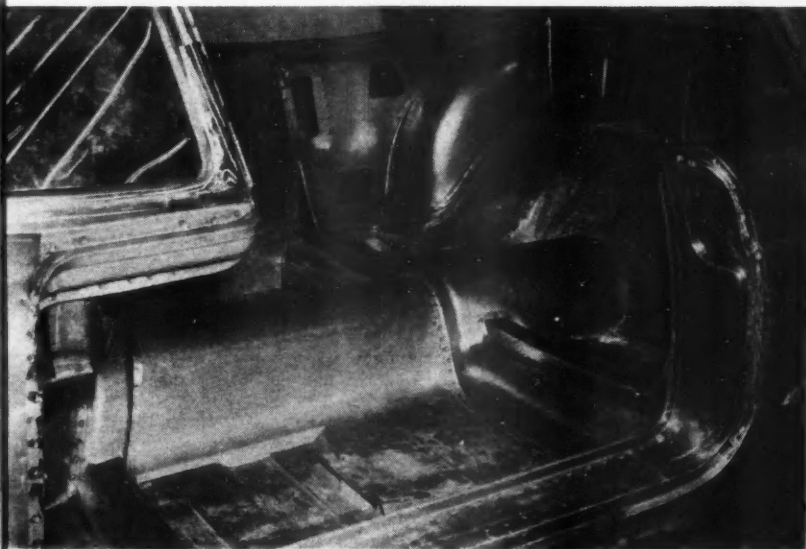
"Where are the Birds expected to roost?" was one question we threw at a Ford spokesman. In reply he let us see an office memo.

It read, "Ford management asked the stylists to design a car they'd like to own. Their 'dream car' is truly a unique automobile with no counterpart in design, wheelbase, maneuverability and performance. Its styling is in contours of the metal itself, not in trim, for there is practically none. It is the first prestige car designed for today's driving conditions."

We can't agree with everything in the statement. There are hotter engines, cars that handle better, look better and have the same wheelbase. But the 1958 Thunderbird is most certainly the "first prestige car designed for today's driving conditions."

Built in the Lincoln plant, priced in the upper medium bracket, with no monkey business about being a "personal car," the Bird has every feature that would appeal to a sophisticate. No matter what's in the garage now, I'll bet a lot of people are wondering if there's room for a new Thunderbird. /MT

SPOTWELDED unit body is one of strongest Ford has ever built. Floor pan, sills, driveline tunnel and eight crossmembers increase strength.





**HERE'S THE LATEST
U.S. ENTRY IN THE
"GO-PAST-THE-GAS-PUMP"
DERBY— THE REBORN
RAMBLER AMERICAN**

America's

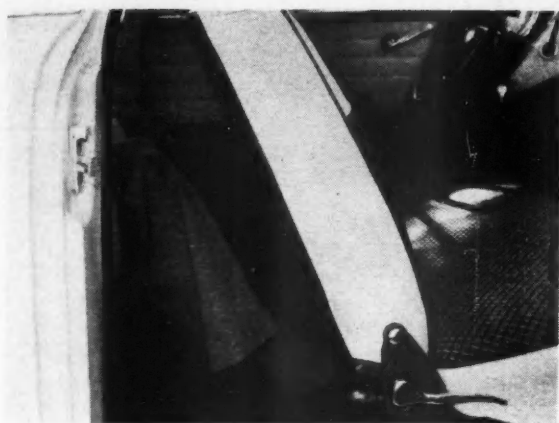
AFTER TWO YEARS OF ABSENCE from the automotive scene, the 100-inch-wheelbase Rambler is returning to the showrooms. Extensive and expensive tooling and rearranging of production facilities at AMC's Kenosha and Milwaukee plants are completed, and as this is written, last-minute preparations are well advanced for a steady flow of the small car that amazed many because of its remarkable successes before the current popularity of smaller-than-average cars.

Also, as this is written, a second profit statement seems to be indicated by a jump in overall AMC sales occasioned by increasing public acceptance of the '58 Rambler and Ambassador models and a larger dealer force than existed a year ago.

We've examined and driven the new American model, a clean and honest little two-door sedan with a seating capacity of four or five adults. The familiar lines of the '55 model are recognizable immediately. There are only minor styling changes: there's a new mesh type grille with the new "R" medallion centered therein; the hood is smooth and lacks the former airscoop, and the rear deck is also smoothed; the rear quarter panels now feature a teardrop-shaped wheel opening; and the tail lights have been given a new look by simply inverting the chromed bezels. The roof line is lower, reducing the overall height a good two inches from the height of the '55 ancestor, but the width and overall length are the same as that of the last 100-inch two-door sedan to carry the Rambler name. Ground clearance has been kept at seven inches with the continued use of 15-inch wheels.

Frankly this little car is *not* all new, nor is there any necessity for it to be in the opinions of American Motors' top management echelons. In fact these officials have not tried to hide a rather interesting fact: in order to build several prototypes, they had to scrounge around and buy several '55 models which were then dissected, modified, and then re-manufactured. Such a car is the '58 Rambler American we drove.

There are several important changes—and they are evident the moment one lifts the hood. The same 195.6-cubic-inch block meets the eye; the simple single-venturi carburetor sits directly on the head, and the exhaust manifold (integral with the forward exhaust pipe) is there—but the water pump no longer drives off the generator. Instead the water pump is new



CLEAN LINES typify American's emphasis on economical function, not stylized form. Height is lower than '55's. Ample rear legroom supports claim of roominess in small car. Upholstery is in durable, woven-wool-cloth material.

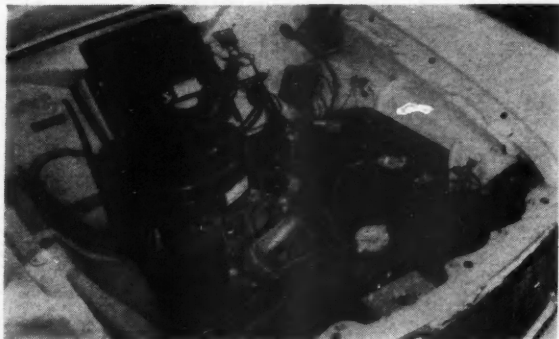
by Joe H. Wherry Detroit Editor

NEW ECONOMY CAR

and is in the usual or conventional front-of-the-block position. The 12-volt battery signifies the new 12-volt ignition system. The air cleaner is small and of the dry element type. Plenty of room around the mill will delight those who do their own work. Fuel mileage will be upwards of 24 mpg.

Functional efficiency of the American is indicated by the dashboard, the instruments, the durable woven wool cloth upholstery, and the placement of radio, cowl-fed heater and vent system, the glovecase drawer, and the non-wrapped windshield. Starting is by the ignition key. Steering is light, quick and positive. You can have overdrive or Flash-O-Matic lever-operated automatic gearboxes optionally, but neither power steering nor brakes is available—they're not needed. The brakes are now larger in effective area by some 36 square inches and several hard stops indicated greater efficiency. The American offers good handling with moderate cornering lean, comfort for tall persons in front, including good headroom, and more space in the rear than the small imports it will compete against, a good solid feel, and an ability to make 80 miles per hour top speed or to go from zero to 60 mph in less than 18 seconds. These characteristics presage a good sale for this car, missed by many who would like a domestic small car.

/MT



ACCESSIBLE ENGINE is basically same as '55 models, now has up-front oil filter, 12-volt electrical system.

PERFORMANCE

ACCELERATION: From standing start to 30 mph 3.9 secs., to 45 9.9 secs., to 60 17.9 secs.; from 50 to 80 mph 20.7 secs.

SPECIFICATIONS

ENGINE: 6-cyl. in-line L-head. Bore 3.125 in. Stroke 4.25 in. Stroke/bore ratio 1.36:1. Compression ratio 8.0:1. Displacement 195.6 cu. in. Advertised bhp 90 @ 3800 rpm. Bhp per cu. in. 0.46. Piston speed @ max. bhp 2692 ft. per min. Max. torque 150 lbs.-ft. @ 1600 rpm.

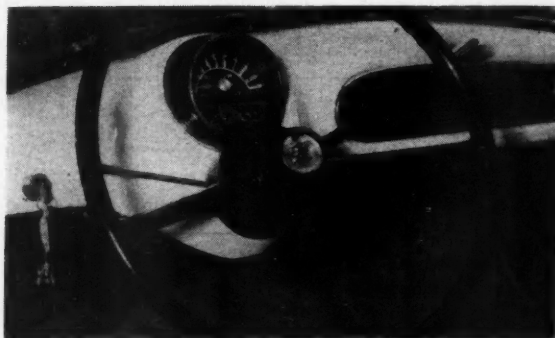
TRANSMISSION: Single plate dry clutch. Three speeds, synchromesh. Overdrive optional. Flash-O-Matic automatic transmission optional. Rear axle ratios: Standard 3-speed 3.78:1 (3.31:1 optional), overdrive 4.11:1 (3.78 optional), Flash-O-Matic 3.31:1. Driveline: Hotchkiss and hypoid rear axle.

CHASSIS: Unitized body-frame with welded construction. Suspension: Independent front with coil springs; semi-elliptic rear springs; telescopic shock absorbers. Tires: 5.90 x 15 (6.40 x 15 optional). Brakes: hydraulic, with 139.4 sq. in. effective area. Steering: worm and roller; 36-ft. turning circle, 3.5 turns lock-to-lock, overall ratio 22:1.

DIMENSIONS: Wheelbase 100.0 in., overall length 178.3, height 57.3, width 73.0, front tread 54.6, rear tread 55.0, weight (shipping) approx. 2500 lbs., weight/bhp ratio approx. 27.8:1.

MODELS AVAILABLE: Two-door sedan only.

PRICES: Not determined at presstime.



DASH TREATMENT is like '55's. Steering is 3.5 turns lock-to-lock. No power brakes or steering available.

'58 PONTIAC ON TRIAL

A Motor Trend Research Report by William Carroll

WHAT'S WITH PONTIAC? is the wrong question to ask this year. In '58 there's little that isn't *with* Pontiac. It's a wholly new car, with nothing left over from '57 except the wheels. Using Fisher's "A" body shell (shared with Chevrolet), Pontiac people simply set out to build the best car. After samples were approved, production specialists tried to figure out how it could be built to sell for a low price, but in the end they failed. Some Pontiacs are more expensive than comparable models of Buick, Dodge or Mercury. But the slight price differential shows up in handling, economy and performance—which are Pontiac's strong points.

Four series bid for attention and what you get under Pontiac paint depends on what you want, and pay for. Lowest priced is the Chieftain series, which includes a Catalina (hardtop) two-door coupe for \$2707 at the factory. This is Pontiac's basic car on a 122-inch wheelbase with 240-hp engine and two-throat carburetor. A synchromesh transmission you can shift yourself is standard on all models. Personally I like the Chieftain best of all. There's little chrome outside, wall-to-wall carpet inside, an ultra sharp convertible, and "live-it-uppers" can turn the inex-

pensive sedans into more expensive appearing models with \$48 worth (Decor Group) of chrome trim.

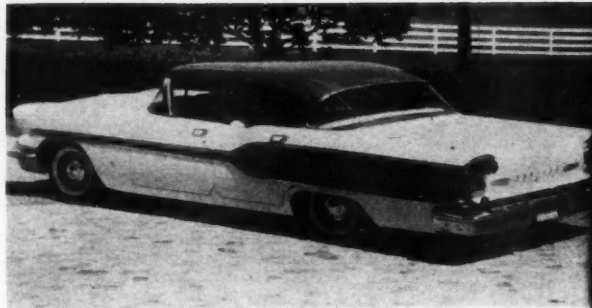
One step up the ladder is their Super Chief series, with a Catalina two-door for \$2880. The \$173 more than a Chieftain buys the longer 124-inch wheelbase, deluxe steering wheel, deep pile carpeting color matched to the interior, a selection of eight interior colors and a grand slam of 120 exterior paint possibilities. A larger trunk, too. Engine, dash and general trim are similar to the Chieftain but comfort is improved in the Super Chief due to the longer wheelbase and increased use of sound control materials under the hood and inside the car.

Selling well inside the medium price field, Pontiac's end runner is the Star Chief series' Catalina two-door at \$3122. The bite is \$242 more than a Super Chief. But what you get for the money shows. Jewel-like colors are available (92 color schemes) in new Lucite acrylic lacquer which remains glossy long after conventional colors have tired. Besides it needs only washing, which eliminates that Sunday polish chore. Custom wheel discs, star-flecked carpets and beautifully done interiors make the Star Chief a lush dish. Under the hood is a four-

PONTIAC FOR '58 COMES IN FOUR SERIES—CHIEFTAIN, SUPER CHIEF, STAR CHIEF AND BONNEVILLE—RANGING IN BASIC PRICE FROM



CHIEFTAIN FOUR-DOOR SEDAN



SUPER CHIEF CATALINA FOUR-DOOR HARDTOP

OUR TEST CAR

A Star Chief Catalina two-door with Tri-Power carburetion, Hydra-Matic transmission, radio, heater, dual exhausts, power brakes and steering, plus a collection of pleasant accessories. It weighed 4160 pounds, ready for the road.

throat carburetor boosting horsepower to 255 with the synchromesh transmission.

In the Bonneville, Pontiac goes all-out to build a top-quality car. Prices are high (\$3481 for the sport coupe, \$3586 for the convertible) but you get the whole works. Custom loomed upholstery, center armrest in the coupe, creases in the deck lid, foam cushions, bucket seats for a few extra bucks, hand-buffed glove leathers in color-matched interiors, and elimination of the word Pontiac. Only hubcaps remind observers of the bomb's origin; for at front, side and rear the Bonneville label has been applied with a heavy chrome hand.

High on Pontiac's list of changes from last year is the tubular center X-frame, said to be the strongest frame Pontiac has ever made, a radical departure from last year's four-way cantilever frame. The ball-joint front suspension system with compound anti-dive control has both suspension and steering actions combined in one strong drop-forged assembly. Some of the industry's biggest changes have been made in the rear, where Pontiac's system of rear suspension incorporates what is known as a basic four-link suspension, with rear axle upper and lower control

arms forming the four links. Instead of conventional leaf springs trying to support the car and absorb axle stresses, steel coil springs cushion the car while solid control arms hold the axle in position. The additional "A" frame between differential and frame combines with a high roll center to provide stability not often found in Detroit products.

An optional Ever-Level air suspension (at \$188 extra) maintains the car at a constant height, regardless of the load and road conditions. For example: Station wagons are usually sprung to handle a thousand-pound load without much trouble. Over that, steel-sprung cars drag their rears and become almost unsteerable. Air suspension keeps the wagon level, no matter what the load or its location on the rear deck.

Rear axle assembly of the '58 has been changed to accommodate the upper and lower control arms for the rear suspension and provide for use of the optional (at extra cost—\$53.75) Safe-T-Track differential. The driveline is now a two-piece assembly with center bearing support to eliminate vibration and permit a lower floor line.

Horsepower for Pontiac's 1958 Tempest 395 engine (the 395 is pounds-feet of torque at 2800 rpm with a four-throat carburetor) has been increased by a larger cylinder bore and improved breathing. V8 engines used in all models have a piston displacement of 370 cubic inches (347 in 1957) provided by a 4¹/₁₆-inch bore and 3⁹/₁₆ stroke. A new camshaft that provides smoother engine performance (it holds the valves open longer) is used in all Hydra-Matic-transmission-equipped engines. The 10 to 1 compression ratio engines (standard with Hydra-Matic) require premium fuels; the 8.6 to 1 compression ratio used with synchromesh transmissions operates on standard grades. Varied compression ratios are obtained by use of differently-domed pistons. You can check the compression of your 1958 Pontiac engine by looking for an L with a circle around it (8.6 to 1 compression ratio) on the serial number pad of the engine. A stronger forged steel crankshaft replaces last year's cast job.

Manual shift, synchromesh transmissions are standard in all series, have an 11-inch clutch this year compared to the 10¹/₂-inch clutch used in 1957. A new lighter transmission uses all helical gears machined from drop-forged steel gear blanks, heat-treated and shot-peened for strength and long life. Shafts are machined from high grade steel, heat-treated and ground to close tolerances.

Automatics are the reliable Dual-Range Hydra-Matic (\$231 option) which has been carefully tailored to specifications of the Pontiac engine. L and R are next to each other, making the job of rocking out of sand or mud an easy one. Fortunately for careless drivers the designers incorporated a blocker valve in the transmission to keep ham hands from pushing through to R while traveling forward at high speeds. We tried it on purpose. No success! The selector lever would not move to R until car speed slowed to about three miles an hour.

continued

\$2573 TO \$3586. LIKE MOST OTHER '58 LINES, PONTIAC OFFERS NUMEROUS EXTRA-COST OPTIONS FOR ADDED PERFORMANCE, COMFORT.



STAR CHIEF CATALINA FOUR-DOOR HARDTOP



BONNEVILLE SPORT COUPE

'58 PONTIAC

continued

Tire sizes are up to 8.00 x 14 (were 7.50 x 14) with 22 pounds pressure recommended when cold or 27 pounds when hot. We like them a little firm and added two extra pounds, which improved handling during our higher-than-usual test speeds.

Even the electrical system has been upgraded to keep with other changes in the car. Larger batteries, located in front of the radiator to keep cool, come in three sizes to meet specific demands. There are two starters (depending on compression ratio), three generators (extra-cost options), two regulators (regular and air-conditioned cars) and two completely different sets of ignition components depending on whether your engine has a high or low compression ratio.

In the list of factory- or dealer-installed options is everything anyone needs except a built-in chamber pot. However, a local dealer assures us this could be arranged. But a word of warning on options: Buy only what you want and forget the so-called "groups." There is no money saved through purchase of a collection of accessories, just because the salesman says they come all together. They don't either! Pontiac is happy to install anything you order, one item or all 58 of them.

Free-for-nothing options include a 3.08 to 1 rear axle ratio for Hydra-Matic cars (not bad in flat country where it saves gas); a 3.64 to 1 option for synchromesh-equipped cars (for mountains, pulling trailers or draggin'—it raises Cain with gas mileage); and a front license plate bracket in those states where wearing two plates is the proper thing to do.

After putting our foot where our mouth has been during MOTOR TREND's comprehensive test program, we'll tell you about the Pontiacs we've driven.

THE FIRST FEEL

EXIT AND ENTRY Bending six-feet-two-inches of driver into the seat of the Pontiac Star Chief Catalina bumped no heads, though I had to practice a couple of times to get my right knee under the steering wheel without trouble. At that, I'd much rather have the wheel in my lap, than in my eyes. The Pontiac has lots of space between the high forehead and headliner. Both door lock and ignition switch use the same key in the same direction, a big help to those of us equipped with five thumbs.

INSTRUMENTS AND CONTROLS Lots of drivers will sing of happy days when they notice that Pontiac uses instruments instead of flashing lights to indicate engine condition. Personally I don't see what all the fuss is about. Both methods work. Heater pushbutton controls are easy to operate and there's plenty of heat when you need it. The two fresh air vents (on each side near your feet) are jewels and dump floods of cool air where you need it. I particularly like the full horn ring you can hit from any angle, and a double-jointed rear view mirror which can be raised or lowered a full 2½ inches.

A safety engineer would blow his brains out over the Pontiac instrument panel. The gaudy collection of rimmed clusters, ash trays and tormented bars was pulled from a GM dream car by Pontiac General Manager Semon Knudsen, who wanted a panel reminiscent of airplane instrumentation. That it looks like! But there's not a single part of the panel you could bang into during a collision without hurting yourself more than necessary. The optional safety pad (\$19.35) is a *must* for the Pontiac I would own.

STARTING With the selector lever in P or N the ignition key turns right to give a fast start every time. If you should have trouble with hot starts, open the throttle about halfway and hold it; the engine will start immediately. Warm-up is rapid and quiet as the hydraulic lifters maintain zero clearance at all times.

Even the transmission has provisions for cold starts and gives a smooth shift no matter what the temperature.

DRIVING IN TOWN

DRIVING POSITION Fisher Body's pillow-style seats are soft enough, but the position of the backrest bothered me, even after only several hours of driving. After so much time in the wonderfully firm Edsel seat, Pontiac's pillow-like cushions and "way back" position seemed off balance. Everyone else who drove the car likes the seating position "as is" which only goes to show you that sometimes the rest of the world is really wrong. I never did get used to it and would block the seatback forward for continuous Pontiacing. A local dealer mentioned that provisions have been made to move the seat forward or backward by relocating the mounting brackets. If your Pontiac doesn't feel right, ask the dealer's service department to change the seat.

GENERAL FEEL Vision's good, particularly around the forward slanting windshield posts. Thank goodness it's almost impossible to hide a pedestrian behind them! I still like the driver's view from Chrysler products better than anything except a scooter. The Pontiac windshield wipers have been set to wipe glass right up to the top in the area most of us look through. The sweep is not overly wide, but no worse than competitive cars.

Town driving was a delight. The Catalina does not have the ponderous feeling of a Mercury or large Edsel and the point of vision seems to be from a higher position than Dodge or Plymouth. Handling at low speeds is excellent with GM's power steering still running second (in this man's preference) to Chrysler's full-time assist.

There's little excess overhang to worry about while parking, but try not to hit steep ramps at high speed. We banged a bumper on our driveway hump, by turning in at the usual "too fast" speed. Turning radius seems adequate for city streets, lock-to-lock being 4¼ turns for power assists and five turns for the manual steering setup.

BRAKES At five to 10 miles an hour, the brakes are super-sensitive, but react normally at average speeds. The throttle and brake pedals are so close together we'd suggest you not try to "heel and toe" the combination. There's plenty of room to learn to use your left foot for braking.

Pontiac brakes are among the largest in the field (12-inch front drums) and seem adequate for average highway use. Using our standard fade test, which consists of a series of repeated slowdowns from 60 to 20 mph at a rate of 15 feet per second squared, we noticed some odor from the brakes on the fifth cycle and a tendency to swerve to the right. On the sixth and seventh slowdown the rear right wheel locked up. On the eighth cycle we encountered sudden and severe fade. This is a somewhat better-than-average performance when related to all cars tested in 1957.

If you are ever forced to use the Catalina brakes to a point of dangerous fade, you may take some comfort from the fact that the car has the type of emergency brake which is not only a parking brake but can also stop you in a crisis. The emergency brake (push it with the left foot) slows the car down evenly and well. It was almost impossible to lock the rear wheels through use of the emergency brake on dry pavement. Such a stop, however, could never be classed as the "panic" type, as we found it required 87 feet to bring us to a standstill from 30 mph.

TRANSMISSIONS What can you say about manual transmissions? They shift, the lever is long enough, the gears are quiet and it's been reported they'll save you a gallon of gas every now and then. We like automatics. On the Pontiac, the extra-smooth Dual-Range Hydra-Matic has R and L (Reverse and Low) next to each other for help in rocking the car. A blocker valve in the transmission prevents hitting Reverse until car speed falls below three miles an hour. We know. We tried it at 50. Full-throttle upshifts are at 70 mph—but you can't feel

them. Maximum kickdown speeds are 35 mph at part throttle, or below 65 mph if you push through the last notch. You can pick up engine braking in the mountains any time below 60 mph by moving the selector to Low.

AT THE DRAGSTRIP

At the dragstrip (Riverside International Motor Raceway) we had an opportunity to measure results of Pontiac engineering. With no leaf springs to wind up (our car had steel coil springs—air suspension cars act the same) the axle reaction arms did a terrific job of keeping tires on the pavement. If you're dragging for a short run, start in L then pop to DR about 55 (this chopped a few tenths off our short-run times). For longer pulls, put the selector lever in DR, floor the throttle and leave it there. You'll be past 80 in the quarter, and well over 100 in the half-mile. An automatic upshift in the transmission prevents overspeeding the engine, eliminating the chance of valves and pistons trying to occupy the same space at the same time. A throttle notch which shifts the transmission to its hottest gear is way down in a hole. Push hard.

fairly secure. Over that I was wishing for stiffer shocks and anti-sway bars which are presently available for police or taxi use. Appreciated was the lack of lightness at speed. Instead of flying high, the little coupe just squatted and ran.

Until I got used to it, driving the Pontiac was just too darn effortless. The speedometer was always far above the legal limit, until I managed to latch onto a comfortable throttle position which resulted in a nominal 55-mph cruising speed.

IN TURNS Nothing happens in turns. You just go around. Gentle turns don't exist. You just think around them. Progressively faster cornering at the Riverside Raceway only showed that eventually all four tires would noisily protest, the car could be drifted and you couldn't break it loose at any speed under a full bore "let's turn it over" corner bending. Sure—the front end dives a little, the rear comes up, but trailing arm rear suspension and high roll center keep wheels on the ground and all 4160 pounds under control.

In fact, control is probably what Pontiac has the most of. Next to performance, that is. We were cornering on dirt for the photographer's benefit. Faster and faster we bent the coupe until



'57 with 270-bhp engine

From Standing Start
0-45 mph 5.6 0-60 mph 8.8
Quarter-mile 16.9 and 83 mph

Passing speeds
30-50 mph 3.9 45-60 mph 3.2
50-80 mph 8.6

'58 with 300-bhp engine

0-45 mph 5.4 0-60 mph 8.2
Quarter-mile 17.1 and 88 mph

30-50 mph 3.9 45-60 mph 3.2
50-80 mph 8.2

ON THE DYNO

Rear-wheel horsepower—(Clayton dynamometer showed):

73 road hp @ 2000 rpm and 25 mph	82 road hp @ 2000 rpm and 47 mph
94 road hp @ 2500 rpm and 31 mph	110 road hp @ 2500 rpm and 58 mph
116 road hp @ 3000 rpm and 58 mph	138 road hp @ 3000 rpm and 74 mph

USING IT FOR TRIPS

LUGGAGE SPACE The 42-inch-wide trunk is wonderful. Unfortunately a spare tire (where else could they put it?) narrows the floor space to about 34 inches. But as the floor is only 3½ inches below the sill, it's still among the handiest we've seen.

ON STRAIGHT ROADS The car handled like a teenager's technicolored dream—at high speeds, in wind up to 54-mph gusts during a storm, on curving mountain roads and on crowded secondaries. Up to 95 or 100 the softly-sprung chassis felt

screaming four-wheel slides were throwing up huge clouds of dust. Even then, when other cars might have spun out, the Catalina needed only a twitch of the wheel and touch of the throttle to pull into a straight line on the rough dirt. It's nice work, when the car will let you.

ON ROUGH ROADS Here the Pontiac is less of a problem than some other '58 cars we've driven. We accidentally dropped the Pontiac into a chuckhole deep enough to jar our teeth, but it caused no loss of control or change of car direction. Pulling off the highway at speed onto dirt shoulders was no trick, nor was 45 mph on a sandy rutted road. There was little pitching as wheels kept busy fighting the ground to keep the body on an even keel. Clearance (6.25 inches) was adequate, road noise about average, and dust sealing for the body and trunk satisfactory. On dips the front end appears to dive heavily and I worried about the low bumper digging in, but nothing happened as the car recovered poise quickly without excessive jouncing. Air suspension jobs are quieter under all conditions and give a softer, more controlled ride on extremely rough roads. On washboard air takes over in great style, while for pavement duty the difference between air and steel is more of quietness than noticeable ride quality.

For some reason there was a lot of vibration in the steering



GAS TANK FILL-PIPE, hidden behind left rear back-up light, was guarded by the ragged-edge hatch cutout.

'58 PONTIAC

continued

wheel. I tried to find the source, but it seemed to be a combination of body and road vibration between 50 and 60 mph. However, road shock and bumps were not passed through the car, which leads me to believe an out-of-balance wheel may have been "sending" movement through the car at moderate speeds. The floor of the coupe lets the seat vibrate more than I enjoyed, which calls for tighter mounting or a better bracket.

ON HILLS Select a safe speed on any hill and you have it made. Slow trucks and roadhogs are no problem, as surplus power and useful transmission kickdown gearing make passing a snap. Less powerful models should perform nearly as well as the Tri-Power, for most hill climbing is done at slow speeds.

HEAT AND VENTILATION It was a relief to use the front window ventilators and find they were not responsible for excess wind noise. A Pontiac touch shows in metal trim of the Catalina windows. A tiny drip ledge catches any water running over the top of slightly lowered windows and drains it down through the door. At last, no more water inside the car from rainy day driving. No air leaks either. The windshield has no overhanging visor lip, which does away with noise at that point.

Separate controls for the fresh air vent are on the driver's left, easy to find, easy to use. The heater operates from a pushbutton panel, equally simple, illuminated at night and exceptionally effective on cold mornings. Both sets of buttons project below the bottom of the instrument panel and can hurt your knees if you bang into them. Wide defroster vents across the base of the windshield keep steam from forming, a job they are helped with by added blower capacity when the "Defroster" button is pushed.

RIDE Front and rear passengers were seemingly comfortable, at least none complained and there *was* plenty of room for tall people in the rear seat. All series and body styles are equally roomy. The medium soft ride seems to be a good compromise, though for continual highway traveling I would prefer slightly stiffer springs and shock absorbers.

FUEL ECONOMY

'57 Super Chief	'58 Star Chief
Stop-and-Go Driving	14.6 mpg for 157 miles
Highway Average	17.3—18.6 mpg for 370 miles
Overall Average	16.9 mpg for 527 miles
14.2 mpg for 883 miles	
Fuel used: Mobilgas Special	
*All mileage shown together in overall average.	

SERVICING

ENGINE AND CHASSIS Stand back when you open the hood, while springs lift it wide and high for easy access. Exhaust manifolds are below the plugs, for which praise be! But only a deep plug socket will do a complete removal job as two on the left bank are hidden under a pump bracket. The crankcase dipstick is on the right side, low down, but there's no burn danger. Not so for the transmission dipstick. It's hidden under the heater blower, near the exhaust connection. Remove the air cleaner to reach the distributor and learn some new cuss words to work on the fuel pump. It's buried way low in front on the left. Belt adjustments are easy as generator and steering pump are high on the block. Unfortunately air suspension and air conditioning pumps clutter up the engine compartment no end. Their inclusion is a tribute to Pontiac engineers who found space for pumps, tanks, idler pulleys and assorted plumbing.

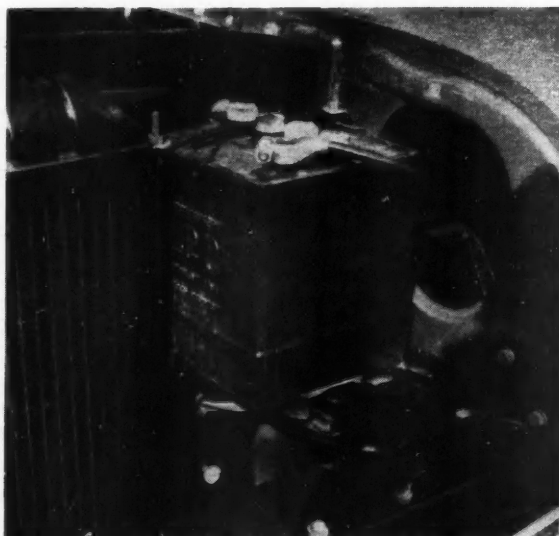
BODY REPAIR The expense of body repair is no more than for any other car of recent vintage. Almost all new cars have gigantic body panels which if damaged can be repaired with smaller service sections from the factory. Bumpers stand out from the body a reasonable distance and access to interiors for panel beating seems on a par with other GM cars. The die cast grille is in two parts; only damaged section need be replaced.

CONCLUSIONS

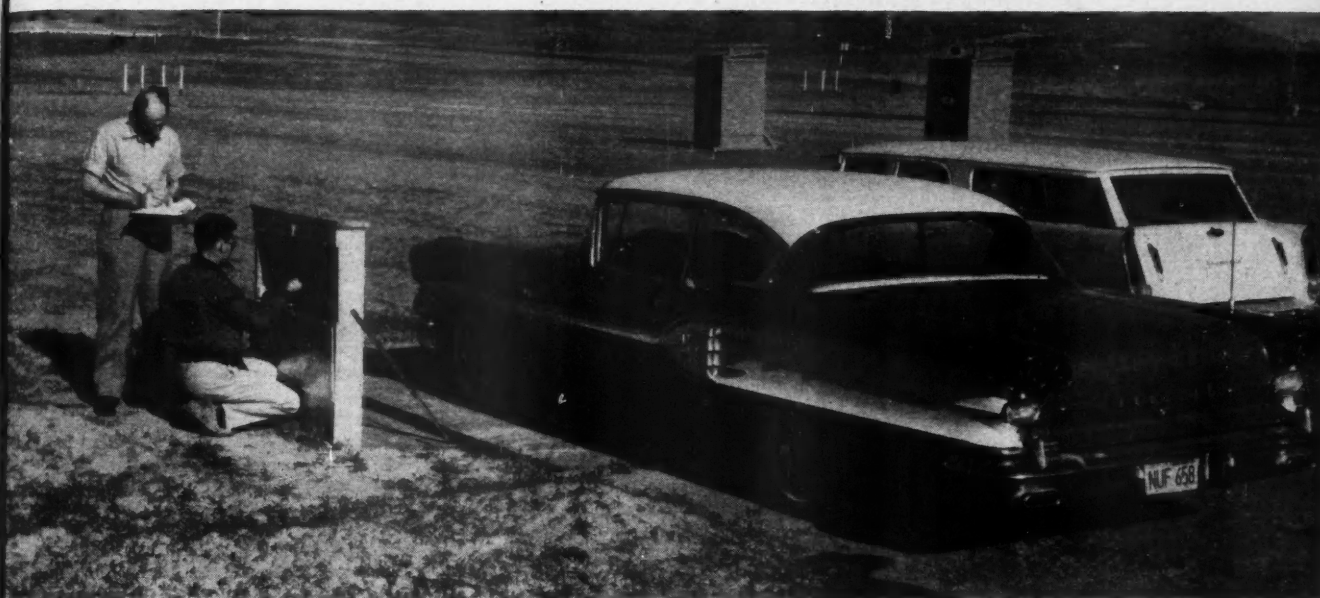
ITS BEST POINTS There don't seem to be any particular ones, for all its points seem good.

That it performs is evidenced by a 1957 Daytona record: Pontiac at 131.747 mph.

That it handles you can find out for yourself by borrowing a '58 for a few minutes.



NEW BATTERY POSITION, up front to the left of the radiator, helped keep it cool, facilitated servicing.

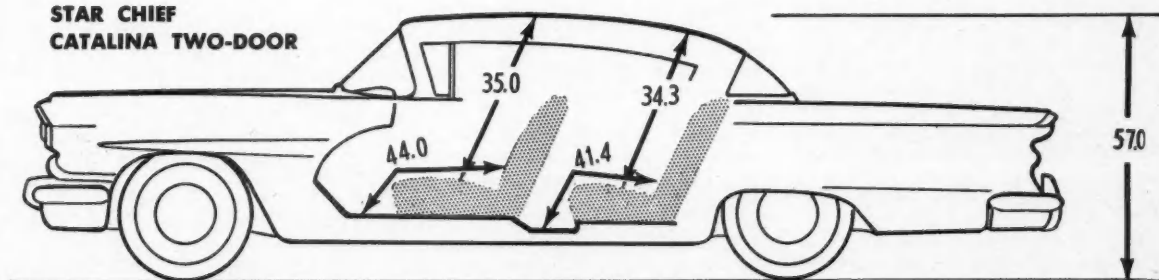


WEIGH-IN at the Riverside International Raceway scales revealed test car weighed 4160 lbs. (55% front, 45% rear).

And I like the combination of an economical, moderate-size car offering traffic agility with the plush interior of more barge-like transportation. First cost seems high, particularly if you compare Pontiac with Chevrolet (which uses the same body shell) and make only a paperwork comparison. Eyeballing the two cars will disclose reasons enough for the price differential. Pontiac's more comfortable wheelbase, bigger tires, larger diameter brake drums with more square inches of lining, plus some of the most tastefully designed interiors in its field are worth the extra money. Then, too, you may favor its "high" seating position as compared to the "low" position of a Dodge or DeSoto. Some people (including Carroll) like the massive appearance of an Edsel as compared to the feminine roundness of a Pontiac. But my pocketbook had the last word: it mentioned the 17.3 to 18.6 miles per gallon of Mobilgas for highway driving at an average speed of 58.25 mph.

CHECK BEFORE BUYING Have someone clip loose threads off the interior trim, take a good look at fit of the upper and lower rear corners of rear doors on Chieftain sedans and the upper rear window molding on Chieftain two-doors. We found awfully rough body work in these specific areas on some of the 20 cars given a careful quality inspection. Some assembly plants are having trouble fitting fenders, side and rear doors to station wagons. Give them a close check and water leak test with a garden hose just to be sure. Carburetor floats set to specifications may be on the high side. If you smell gasoline right after cornering, ask the mechanics to lower the level to its minimum specifications and save a little gasoline. In general we found Pontiac to be among the best of its class for quality of assembly, and if your dealer pre-delivers the car as you are paying him to do (pre-delivery charges are a part of the car's price), you should have no problems. Only fun. /MT

STAR CHIEF CATALINA TWO-DOOR



SPECIFICATIONS OF TEST CAR

ENGINE: Ohv V8. Bore 4.06 in. Stroke 3.56 in. Stroke/bore ratio 0.88:1. Compression ratio 10.5:1. Displacement 370 cu. in. Three 2-bbl carburetors. Advertised bhp 300 @ 4600 rpm. Bhp per cu. in. 0.81. Piston speed @ max. bhp 2729 ft. per min. Max. bmep 160.3 psi. Max. torque 400 lbs.-ft. @ 3000 rpm.

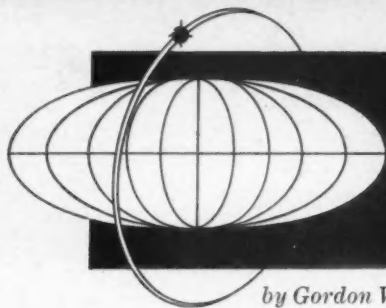
TRANSMISSION: Hydra-Matic automatic four-speed planetary gearbox with fluid coupling; ratios: 3.97:1, 2.55:1, 1.55:1, 1.00:1.

CHASSIS: Front suspension—-independent coil springs with upper and lower control arms. Rear—coil springs with control arms. 8.00 x 14 tubeless tires. Power steering, recirculating ball, 4.25 turns lock-to-lock, overall ratio 22:1. Rear axle—conventional differential, ratio 3.08:1.

DIMENSIONS: Wheelbase 124 in., overall length 215.5, overall height 57.0, front tread 58.8, rear tread 59.4, rear overhang 57.0. Weight with gas, oil and water 4160 lbs. (55% front, 45% rear), weight/bhp ratio 13.9:1.

PRICE: Factory-suggested retail price of test car equipped as described including federal tax but not state and local taxes, delivery charges or freight \$3869.

ACCESSORIES: Hydra-Matic \$231, power steering \$107, power brakes \$40, dual exhausts \$31, heater and defroster \$96, radio \$101, Sportable radio \$196, power windows \$107, Safe-T-Track differential \$54, air suspension \$188, tinted glass \$37, air conditioning \$430.



AROUND THE WORLD IN THIRTY DAYS

by Gordon Wilkins Overseas Correspondent

B RITAIN Announcements by the Rootes Group for 1956-57 reveal an extraordinary change that has taken place in the motor industry during 1957. In the 12 months up to July 31, 1957, the Group show a loss of \$952,552, and the ordinary dividend was halved from eight to four per cent. But Sir William Rootes revealed that during the first three months of the present financial year the Group had profits of \$1.4 million.

The Suez crisis had seriously affected the Rootes Group because they were about to introduce the new Humber Hawk. This crisis not only delayed the new model but had made it necessary when trade was resumed to dispose of the stock of old models at uneconomic prices. However, the level of sales was actually a record and 55 per cent of production was being sold for export.

Despite the difficulties during the Suez crisis when home and European markets virtually closed down and the industry was also faced with wage increases and higher steel prices, the Standard Motor Co. Ltd. made a profit. Over the last few months of the financial year overall output of cars and tractors was running at the rate of 160,000 units per annum. Consolidated profit for the year was \$2,457,056 compared with \$2,259,006 last year, and the dividend was maintained at eight per cent.

Lord Tedder, Chairman, said that they had embarked on a completely new model program and that their stylists are working in collaboration with the Italian designer Giovanni Michelotti. Introduction into the U.S. of special versions of the 10-hp sedan and Companion plus the success of the Triumph TR-3 in America have gained them orders totalling \$30.8 million for delivery by the end of next month.

The Rover Co. had maintained its position and had been successful with the 105-S and 105-R as well as with the Land Rover. Chairman S. B. Wilks stated that a dividend of 22½ per cent would be paid to its stockholders. Mr. Wilks warned stockholders that credit restriction, high interest rates and rising costs, coupled with increasing competition, were factors which might adversely affect business in the near future. But for the moment the orders were satisfactory and the future could be faced with confidence.

Main theme of Sir Leonard Lord's statement to BMC shareholders was the sudden and marked recovery in the Group's fortunes in the spring of 1957. Out of total output last year of 352,855 vehicles 123,341 were produced in the last three months and output is now running at 12,000 vehicles a week.

Exports of Morris Minors to the North American continent have shown a big rise in

1957. In the first 10 months the value of cars exported was \$8,425,956 compared with \$1,076,460 in the same period in 1956.

Austin-Healey assembly is being moved from the Austin Motor Co. at Longbridge to Abingdon, where MGs and Rileys are made. Transfer will be completed by the end of the year and is part of the BMC's "rationalization policy" which aims at concentrating all sports car production in Abingdon. Present production of the Healey runs at about 200 a week.

News from Ford is that they have a new \$22.4-million foundry at Dagenham. Soon it will be at full production, making 400 tons of castings a day. Most of the products will be cylinder blocks and heads and also larger castings for tractors. The foundry, named after the river Thames, is part of Ford's \$182-million five-year expansion and modernization program.

Managing director of the Netherlands Ford plant, C. Stenger, came out with the news that Ford will introduce a new small car to compete with the Volkswagen and the small Fiat in one or two years' time. It would be a four-cylinder model priced below \$1400 and would be made in Britain.

GERMANY Dr. Nordhoff, General Manager of Volkswagen, is reported to have stated that a new design for the Volkswagen was being considered, adding that it was important to develop the car further to keep step with developments in the automobile industry. The Volkswagen has remained basically unchanged since its first design in the early 1930s. However, next day came a denial from the Volkswagen works and a statement that the present model would continue for a long time.

Auto-Union of Ingolstadt and Dusseldorf is negotiating with the State Governments of Bavaria and North-Rhine Westphalia for credit guarantees totalling \$8.33 million. The credits are to finance the production of Auto-Union's new 500cc baby car (see Jan. MT). Chassis, engine and other parts are to be produced at Ingolstadt, and these are to be assembled in the Dusseldorf plant where the car bodies are made.

In East Germany, the state-controlled automobile industry is planning to build a small people's car. Brief details just released show it to be a small two-door sedan called the P-50, with air-cooled 30.5-cubic-inch two-stroke engine driving the front wheels. Power output is 18 bhp at 3750 rpm. The car has a plastic body on a metal frame, with platform chassis, like the larger P-70 already built in the East Zone of Germany. It has a modern, smooth shape; there are sliding

windows in the doors, and there are cowl tail lights high in the rear fenders. The two-cylinder engine is mounted transversely as on pre-war DKWs. Transmission is through a four-speed gearbox with free-wheel, and suspension is all-independent, with swing axles and progressive-rate springs at the rear. Production will probably start at the AWZ works at Zwickau some time in 1958, but no delivery dates and prices are yet available.

In West Germany one firm is hoping soon to begin production of a small sports coupe looking like a baby Porsche, with three-cylinder Heinkel two-stroke engine of 41.3 cubic inches in the rear. The engine is water cooled, and gives 32 bhp at 4500 rpm. Transmission is through a four-speed all-synchromesh gearbox. Car is sponsored by Weidner, a well-known trailer manufacturer, and will have all-independent suspension by rubber in torsion. Top speed is said to be 87 mph.

JAPAN Two British motor manufacturers are affected by the Japanese government's decision not to allow the payment of foreign exchange for the manufacturing of foreign cars under license in Japan after 1960. These are Rootes, whose Hillman Minx is made by the Isuzu Motor Co., and BMC, whose Austin is made under license by the Nissan Motor Co. Brian Rootes, who has been in Japan recently inspecting facilities for production of the Hillmans, expressed concern over the Japanese decision. Third foreign concern affected is Renault, whose small sedan is made by the Hino Co.

Production of Hillman cars is at present about 5000 units a year. Japanese government officials seemed to think that renewal agreements might be approved if the amount of foreign exchange to be paid out was cut down; i.e., if there was a new agreement more favorable to Japan.

FRANCE Output from the French motor industry rose by 10 per cent in the first 10 months of 1957 compared with the same period last year. Some 590,000 cars and 168,000 industrial vehicles were produced, and exports are up about 50 per cent in a year, though these still represent less than 20 per cent of total output. The committee of the French State Planning Commission, which has just published its annual report on industry, estimates that motor production should rise from 786,000 units in 1956 to 1,075,000 in 1961.

POLAND News from Poland is that the shortage of cars is likely to continue for many years and as in the Soviet Union, Polish citizens have to wait about two years for delivery. The Warszawa is the only domestic passenger car in the market, but the new small two-cylinder Syrena will soon go into production. The Warszawa is an almost exact copy of the Russian Pobieda. It is made at the Russian-built factory at Zeran near Warsaw. It began operating in 1950 and at first all parts for the Warszawa were imported from the Soviet. Now 80 per cent are made in Poland. In the first nine months of 1957 production rose to 12,000 from 9000 for the whole of 1956. The 1958 target is 16,000. Thirty-five per cent of the cars

continued on page 52



ALLARD Allard's handsome two-door Gran Turismo coupe on the Palm Beach II chassis should be just the thing for the connoisseur who insists on luxury coupled with high performance. Standard powerplant is the Jaguar 3.4-litre engine with Jaguar gearbox, but a Cadillac engine and transmission may be ordered and a de Dion rear axle is an optional extra. Another slight-extra-cost item is a rear seat which reduces the gas tank

capacity from 25 to 20 gallons. Front suspension is unusual, consisting of a sliding pillar which acts as the steering swivel, supported at the lower end on a wishbone, one arm of which is an anti-roll bar. The other arm is coupled to a longitudinal laminated torsion bar. Rear axle is carried on twin parallel trailing arms. Performance, in the 120-mph class, coupled with the outstanding body design should make for ready U.S. customers.

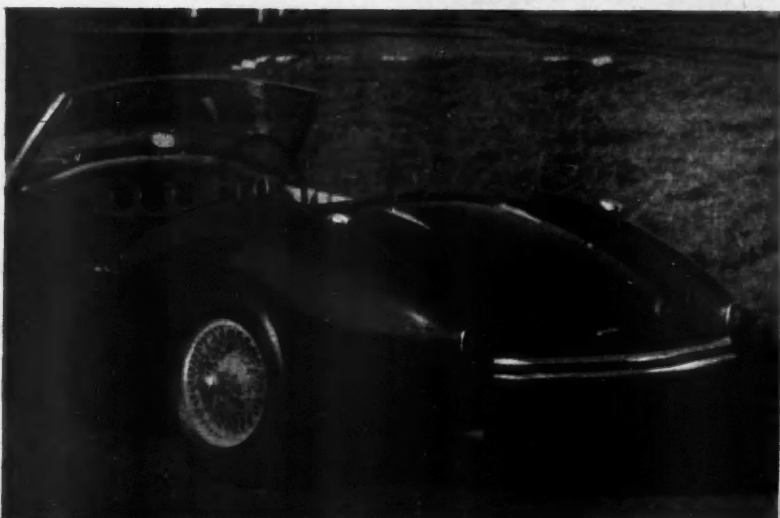
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FRONT SUSPENSION



REAR SUSPENSION



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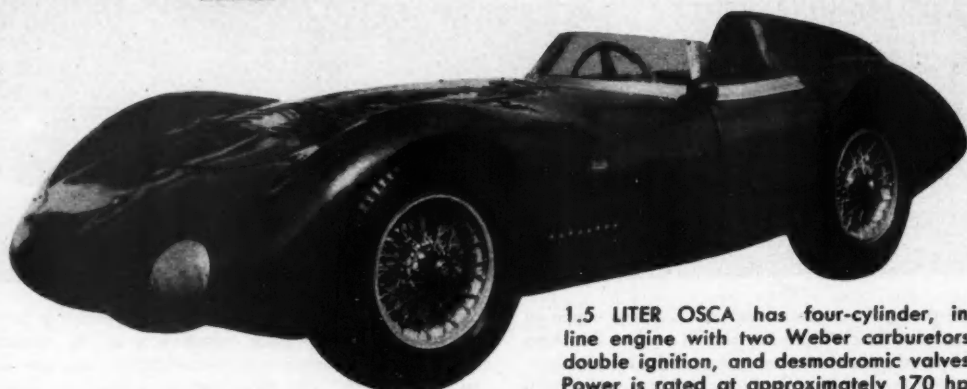
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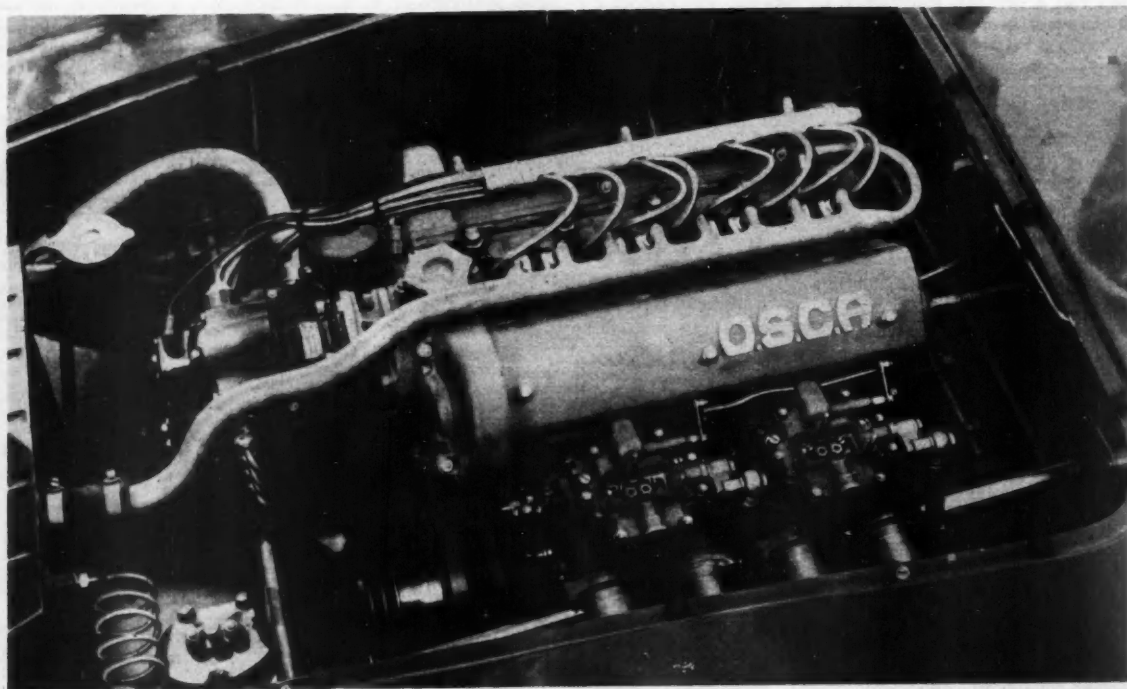
AROUND THE WORLD IN THIRTY DAYS

continued

Italy... Germany... Britain



1.5 LITER OSCA has four-cylinder, in-line engine with two Weber carburetors, double ignition, and desmodromic valves. Power is rated at approximately 170 hp.



PHOTOS BY GUNTHER WOLTER

MAICO The Maico Sports, shown at right, is one of the neatest appearing small cars to come out of Germany since the Porsche. The styling could almost be mistaken for a duplicate of the Mercedes 190-SL, but mechanically it never could, being similar to the Maico sedan (MT, Oct. '57). The new car will feature a rear-mounted, two-cylinder, two-cycle, 27.6-cubic-inch engine developing some 20

bhp — slightly disappointing in a sports two-seater which looks as though it should go much better. However, low overall weight will permit a top speed of at least 70 mph. All-independent suspension by coil springs with rear swing axles of the simplest type should mean comfortable riding and good handling.

Although Maico has been in the motorcycle business for thirty years, the auto upon

which the Sports is based began life as the Champion several years ago. Maico is the third company to try to make a commercial success of it.

The Sports will sell for approximately \$1850 F.O.B. Philadelphia and will be formally introduced to America at the International Auto Show in New York City in April. The distributor states that there may also be a three-cylinder version. →

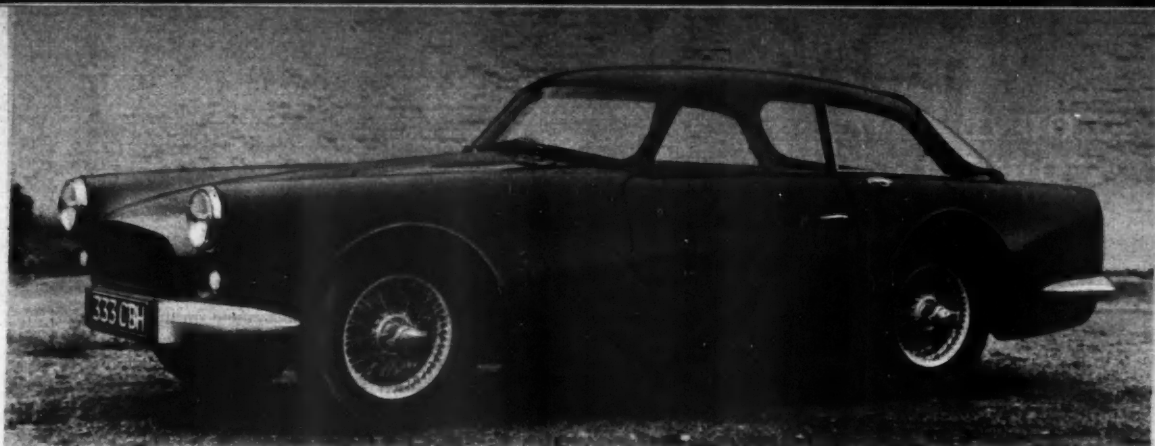


PHOTO BY GUNTHER MÖLTER

NO-NAME CAR Despite the large and varied production of sports cars in England, there is no moderately priced Gran Turismo coupe which will carry two people and luggage at high cruising speeds. Peerless Motors of Slough have determined to meet this need and are making plans to produce an as-yet unnamed, smart looking coupe.

Powered by the 100-bhp Triumph TR-3

engine, it utilizes the sturdy Triumph gearbox, Laycock-de Normanville overdrive and a de Dion rear axle. The chassis has a space frame welded up from square section steel tubing. Front suspension is by wishbones with coil springs while the de Dion tube is carried on half-elliptic springs.

The coupe body, a low 51 inches high, is aluminum on a steel frame. There are seats for four, and luggage space in the trunk.

Two fuel tanks fit in the sides of the chassis under the doors to keep the weight within wheelbase and allow maximum trunk space.

Current plans are to begin deliveries early in 1958 at a hoped-for selling price in England of under \$2800 before tax. If production can be maintained and the car handles as well as advance reports indicate, its success in the American market is assured from a ready supply of eager buyers.

continued



BRISTOL 406 two-door, four-seater model features body by Beutler (Switz.), 2.2-liter engine, and four-wheel Dunlop disc brakes.



AROUND THE WORLD IN THIRTY DAYS

continued

... to see more minicars

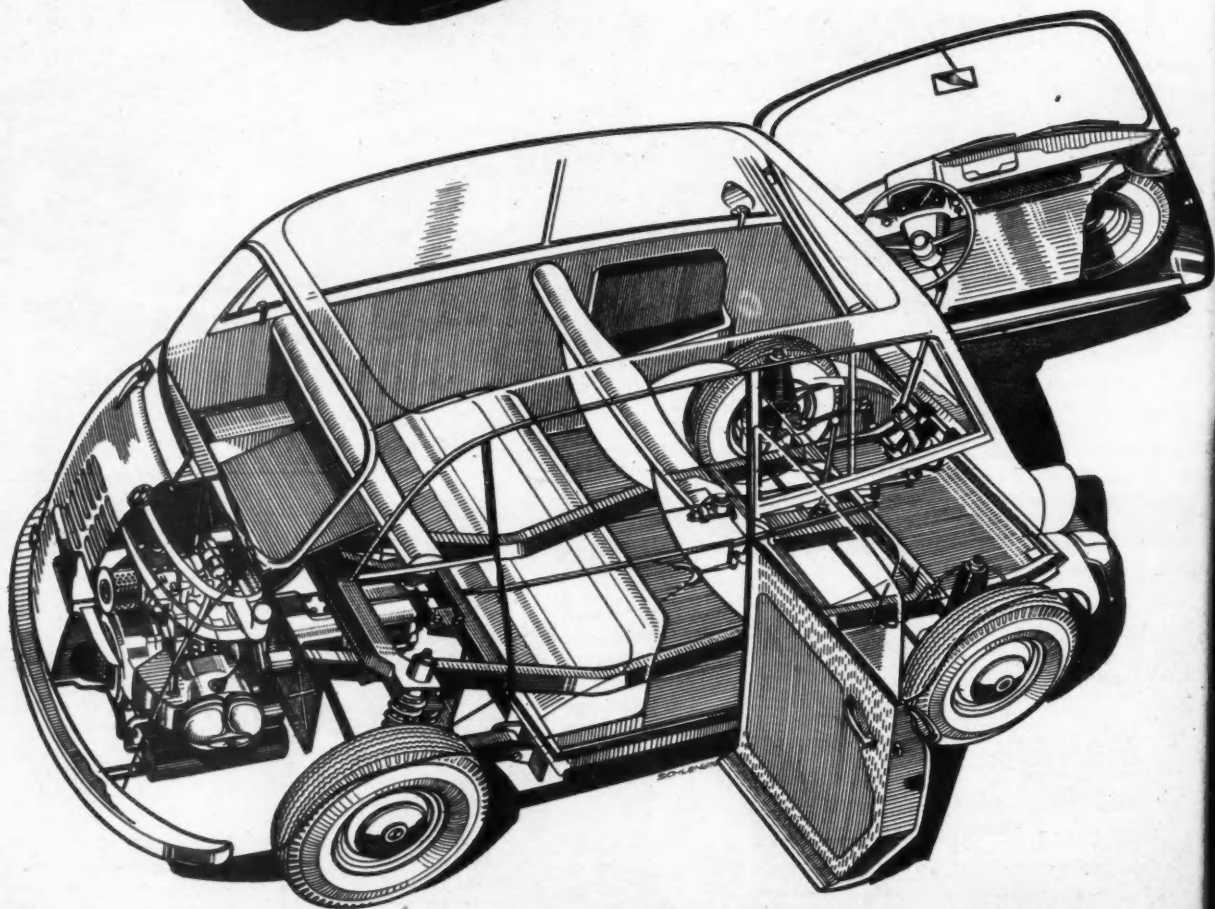


BMW With a sort of pincer movement on the car market from their smallest economy model, the Isetta, to their most expensive sports car, the 507, BMW may be beginning to fill in the gaps with their latest economy miniature, the 600. A visual hybrid, it looks like an Isetta at the front and a Fiat 600 at the rear.

Entry for the front seats is through the front opening door, which brings with it steering wheel and instrument panel; for the rear seats, through one door on the right side. Head- and leg-room are surprisingly ample, front and rear; seats are comfortable and visibility all around is excellent.

A 19.5-bhp opposed two-cylinder engine, mounted behind the rear axle, is actually a de-tuned version of an air-cooled motorcycle powerplant and is exceptionally quiet and reliable. Chassis, with a ladder-type frame, is a beautiful study of automobile engineering on a miniature scale.

Driving the little BMW on a winding road illustrates the enormous progress made in building handling characteristics into rear-engined cars. There is definite understeer, no tendency for the tail to break loose, and only modest roll at near-sports-car speeds. Lack of pitching highlights a good ride. The car will pull in fourth gear from 14 to 60 mph with four people on board.



VESPA The economic jump between the motor scooter and the conventional automobile can be insurmountable for a working European—hence the rise of baby cars. Piaggio, an Italian firm whose Vespa scooter was a pioneer in the field, has entered the market with a well engineered miniature, product of six years' work by the same design team that produced the scooter. Actually, the new vehicle is being constructed in France because it is impractical to compete in Italy with Fiat's 500 while it is possible to compete with Citroën's relatively expensive, hard-to-get 2-CV.

It is almost commonplace with this type of car to mount a two-cylinder, air-cooled, two-stroke engine in the rear—and that is exactly what Vespa has done. Displacement is 24 cubic inches and there is enough power—rating not announced—to turn 58 mph. Unitized steel body with a plastic folding top, independent four-wheel suspension, rack and pinion steering, swinging rear axle and rear-mounted three-speed synchromesh transmission are a few other points of mechanical interest.

Seating capacity is restricted to two with space behind the seats for luggage or small children. The spare tire will be found beneath the passenger seat. Front grille, a phony, is removable for access to the battery and brake master cylinder.

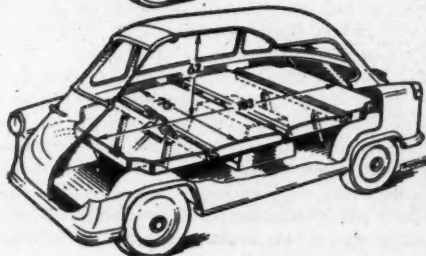
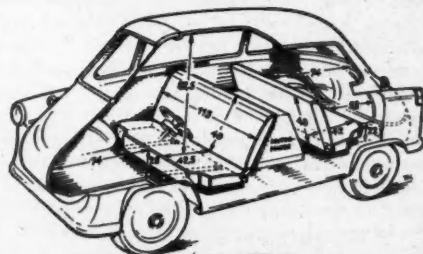
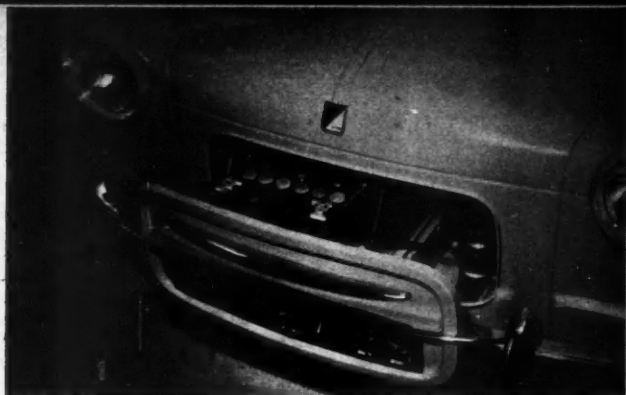
JANUS

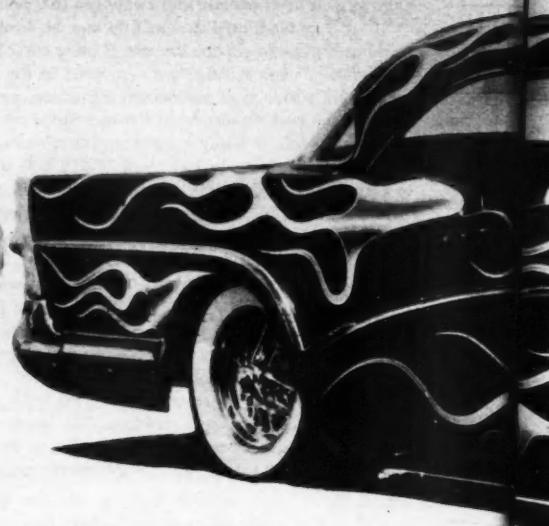
In ancient Rome, Janus was a god with two faces. No name more appropriately describes the German Zundapp's entry into the minicar field. As a four-seater which places its occupants back-to-back and has entry doors at either end, only the headlights enable a casual observer to determine whether it's coming or going.

An air-cooled, single-cylinder, two-stroke engine (15 cubic inches) lies on its side in the wedge-shaped space between the seats. Though tiny, it cranks out 14 bhp at 5000 rpm—enough to hit about 50 mph flat out. The four-speed gearbox, while non-synchromesh, is a motorcycle progressive type, fast and foolproof in operation.

A feature which seems almost incongruous is a double bed available simply by folding the seats flat. Normal seating is comfortable with ample head- and legroom and the rear seat folds to provide an amazing amount of quickly accessible luggage space. The ride is excellent for the size of the car. Four-wheel independent suspension contributes mightily while a steel unitized body promises a rigid, rattle-free lifetime.

Did someone ask about the rear seat passengers being blinded by oncoming headlights? Two adjustable translucent green visors are installed especially for the rearward riders. /MT





by James E. Potter

SPLASH your

CHOPPING TOPS, stretching fenders, and shading headlights are customizing operations that are gathering cobwebs in the specialty shops around the country. In place of the torch and the metal-bending hammers, you'll find a delicate paint brush and the spray gun quietly at work.

This doesn't mean that no devotees of body reshaping are to be found, but there seems to be a very definite reason for less metal work today. Finally, through the constant badgering by the automotive magazines and the general public, Detroit's most recent cars have the shapes and embellishments in the form of sculptured contours and so on, that make them acceptable as good-looking vehicles of the road.

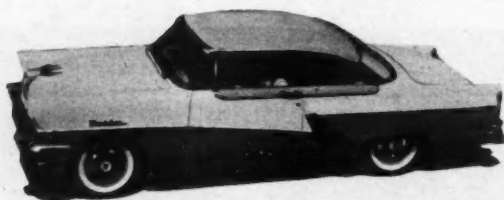
Yet, there are those among us, especially in our more youthful groups, who still desire and practically demand an automobile with individuality. To get it, they've turned to paint. It all started with the striping craze, which turned out to be a mild form of highlighting certain areas on the car, or enhancing the hood or rear deck with an intricate thin-line design. The fine paint brush was used around radio aerials, door handles, and around chrome. This also was the era of dragons, spiders and small abstract figures which showed up on the cars of the more daring enthusiasts.

Then, suddenly, flame painting caught on with a flourish, and has become mighty popular with many enthusiasts. Flames began with little flickers from the hood louvers of some of the earlier customs, but the flames soon spread to envelop the entire car—not just on the older customs, but on 1955-57 cars as well. Flames are made to look like the real thing, too. Four colors, blended and hand rubbed, tipped with gold, and finished off with contrasting striping are the order of the day.

Gradually, this "crazy painting" fad has emerged into what is known as "scalloping." This more subdued form of painting, if designed with care and good taste, actually can enhance the beauty of an otherwise dull-looking car. Imagination plays an important part in either flaming or scalloping, as designs can run the gamut from paint blotches to pure ingenuity. Basic painting procedures are the same for either type. You scribe off the pattern desired, outline it with masking tape, fill in the areas not to be



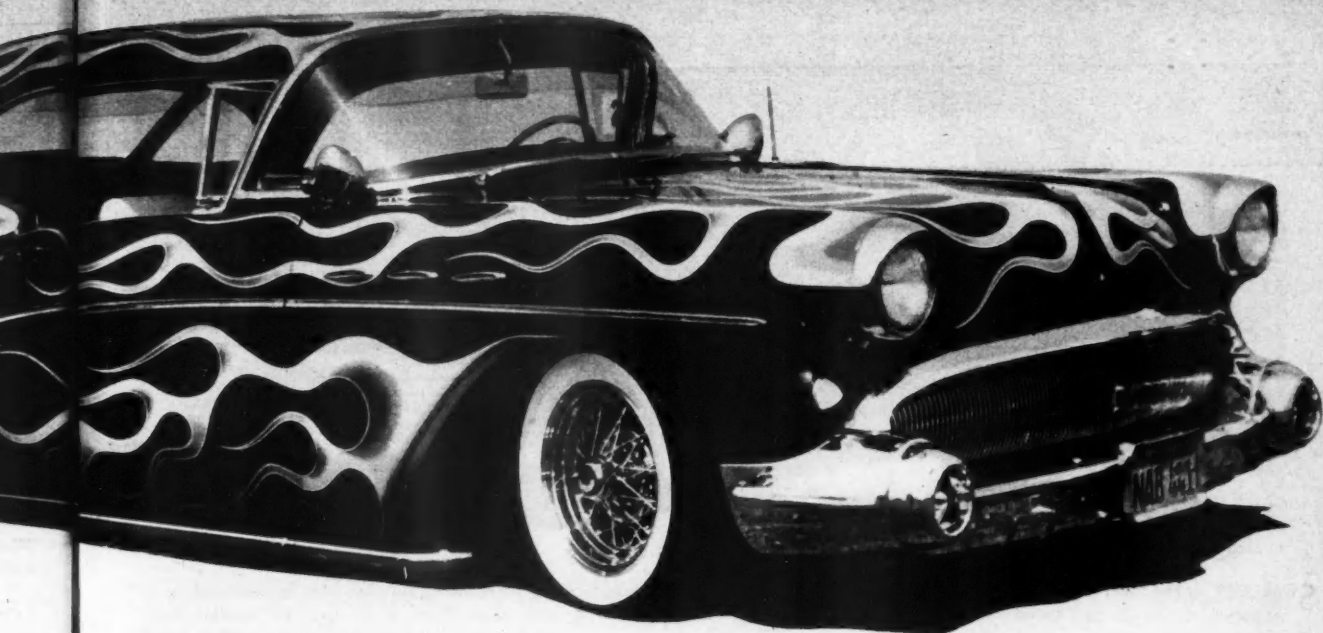
THE USUAL QUIET EXTERIOR of the '57 Buick (above) suddenly takes on a flamboyant appearance once the specialty painters, such as Larry Watson of North Long Beach, Calif. (wielding the spray gun in the upper photograph), envelop the car with a dazzling array of flames.



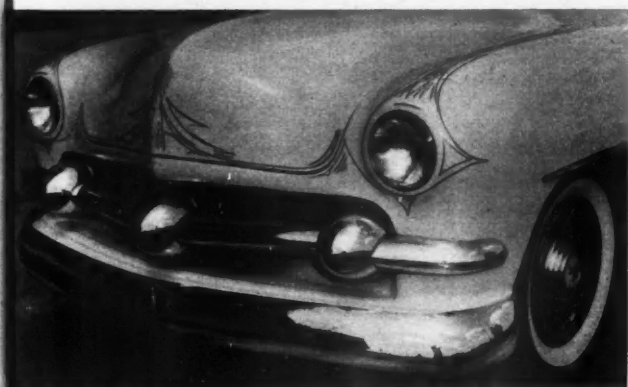
LATEST in the painting craze are scallops. If done with thought and care, this form of specialty painting can actually enhance the appearance of an otherwise dull-looking car. Cal Wiekamp's '55 Mercury (right), as compared to the plain one above, is fine example of scalloping.

painted with paper, sand the surface and clean it with wax remover, then paint it with a spray gun. You can use one color or blend it with various tones, and after removing the masking paper, you may want to add striping around the flames or scallops. Anyway you look at it, the results are startling.

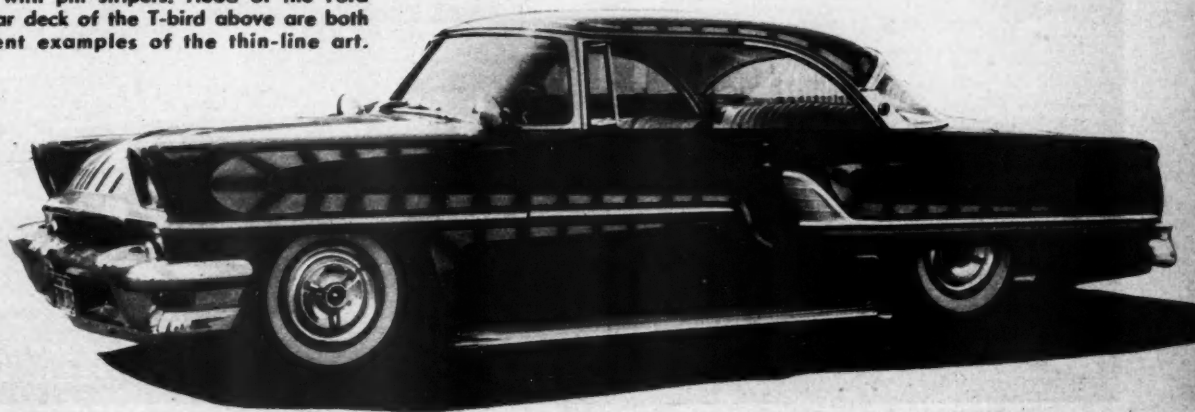
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r car with color!



THE FAD OF CUSTOMIZING with paint all began with pin strippers. Hood of the Ford and rear deck of the T-bird above are both excellent examples of the thin-line art.

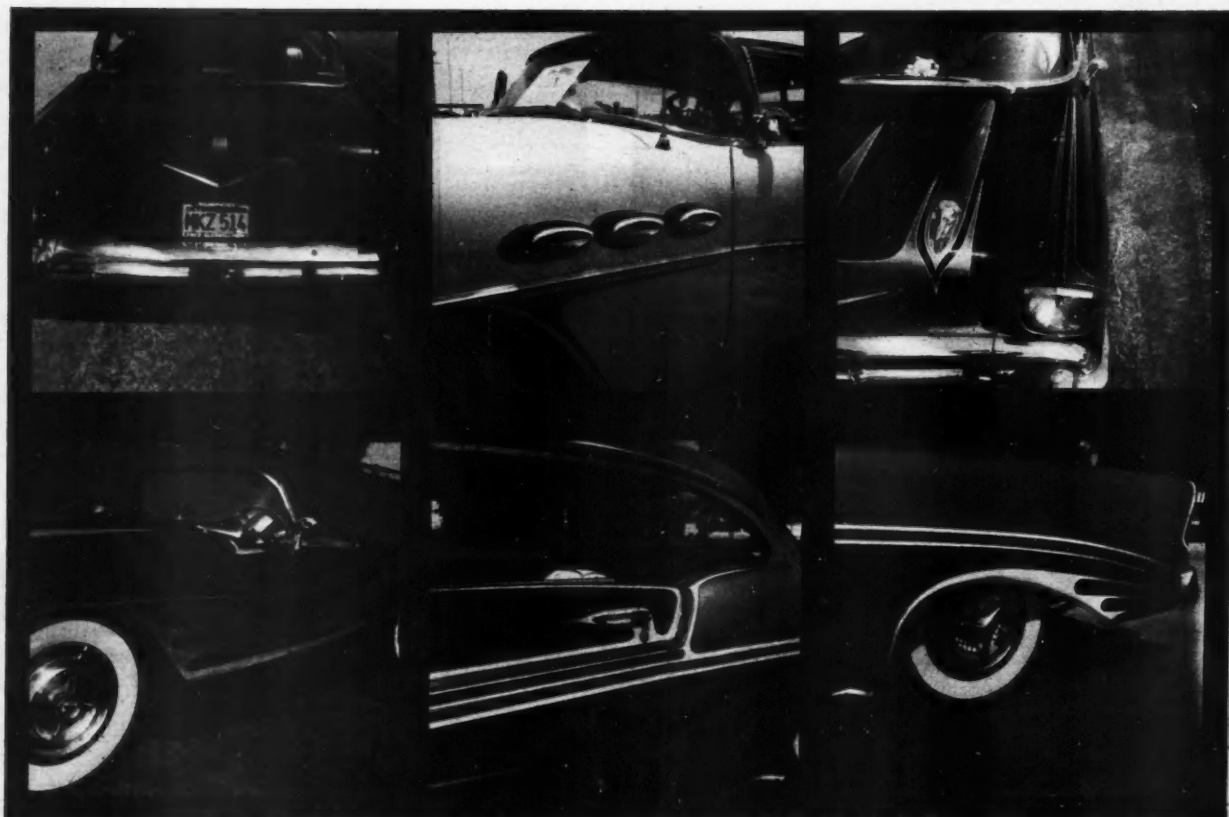


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SCALLOPS on the '51 Ford (above) tend to give the car an appearance of motion and speed although standing still. This new form of two-toning is carried further by a thin white line separating the two colors of paint, giving greater contrast. Below are six excellent examples of what you can do with this new art of scalloping. Rear decks and hoods are naturals for scallops, but then emphasizing Buick portholes, Chevrolet twin hood ornaments, isn't quite as apparent to the unimaginative. The scul-

ptured area aft of the front wheel on Corvettes is a natural spot to try your hand with paint. Then, of course, door handles, rear fender wells, and many other areas can be detailed with scallops to truly enhance the overall appearance of your automobile. If you're not sure just how your own car will look with these new paint embellishments, you might try the suggestions given on the opposite page before you take brush or spray gun in hand. Incidentally, actual painting techniques are fairly standard.





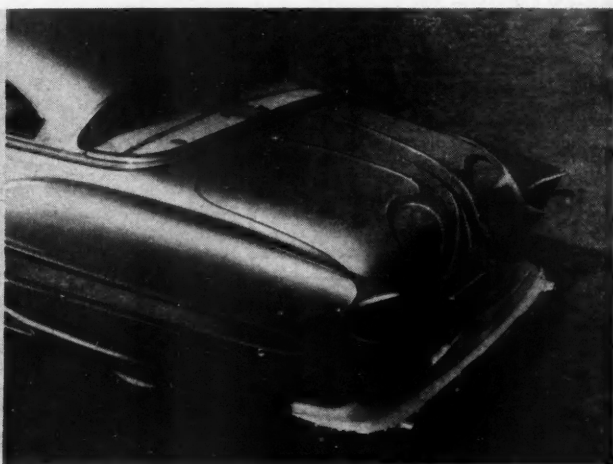
GOLD AND BRONZE SCALLOPS, outlined in red, give this '56 Buick, owned by Gary Niemie of Long Beach, Calif., definite distinction in a manner pleasing to the eye.



TWIN STREAKS and a center peak emerge from the encircled grille scallop. This theme is also carried out around headlights and conforms gracefully with the body lines.



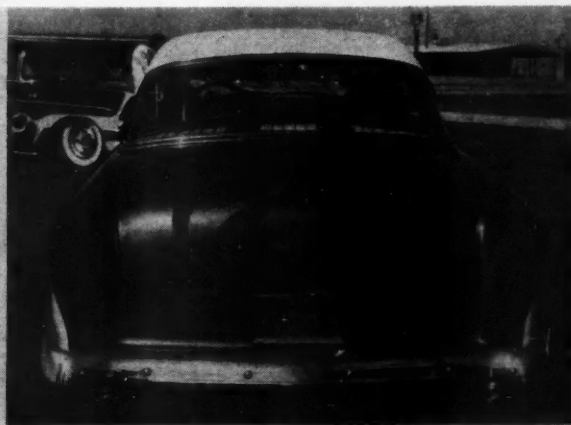
BLENDED SCALLOPS, using a combination of gray, yellow and red tones give this black 1949 Chevy a splash of color that comes on like gang busters.



AN INTRICATE DESIGN enhances the rear deck of this chopped and customized 1950 Chevrolet. Notice how the contrasting scalloping is also used on taillights to complete the theme.



SPOTTED TEARDROPS are formed in an outlined scallop on either side of flamboyant design on hood of Pete Angress' 1952 Ford. Striping is also used effectively.



INVERTED HEART is formed in center of rear deck blended scallops. Larry Watson, a true artist with the brush, did all of the handsome scalloping jobs shown on this page.

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AROUND THE WORLD IN THIRTY DAYS

continued from page 42

are exported and the rest are sold inside Poland. Demand is high and so the Government has set a high price of 120,000 zlotys (over \$4000 at the 24-to-1 exchange rate) on these cars. Selling price is about 43,000 zlotys over the cost of production. Before the "Polish October" (1956) which brought political and economic changes, official government purchasers paid as little as 30,000 zlotys for a car. At that time the Warszawa could not be bought privately, so the government had to subsidize the industry to meet production costs. Now all buyers, official or private, pay the same price.

The difference between the cost of making a Warszawa and its market price goes to the Polish government. By continuous effort to cut down production costs, the factory is expected to make a profit and has so far succeeded in doing this. In the first three quarters of 1957 the cost of producing each car was reduced by an average of 5000 zlotys. According to a new experimental plan 50 per cent of the profit is divided among the workers, 30 per cent is assigned to building, and about 20 per cent to the government.

RALLY CARS The rules governing the cars eligible for Touring and Grand Touring categories in rallies and races are so complex that only specialists understand them, and the latest official decisions do little to simplify them. Touring cars must have been made in quantity of at least 1000 in 12 months, and if over 1000cc capacity they must have four seats. Grand Touring cars must have reached a production total of 100 in 12 months. Each group is divided into three classes: Standard, Improved and Special.

On Standard cars, only minor items, like headlights, brake linings, plugs, battery, shock absorbers and carburetor jets can be changed. Wheels can be reinforced, and axle ratio, radiator or fuel tank can be changed for others shown in the works manual.

On Improved cars, the rules permit all the tuning that an independent owner could do; one can change wheels but not rim sizes, add a stabilizer bar, change make and type of coil, distributor and carburetor. The manifold can be worked on so long as inlet flange measurements are not changed. Brakes can be reinforced and extra cooling arranged, but drums or discs cannot be changed. In general, parts may be polished but metal must not be added.

On Special touring cars, extensive modifications are permitted, such as only works teams can generally undertake. Weight can be cut by 10 per cent. Block castings must be retained, and the standard number of bearings and type of valve operation cannot be changed, which is a pity as it excludes some well-known conversions for small Fords and Renaults already on the market.

In the Gran Turismo section, 100 must have been built in 12 months with similar body and mechanical parts. It will be interesting to see how some well-known but expensive makes get around that one. On open models, the full-width windshield must

be 7.9 inches high, against 5.9 inches on sports cars. There must be practical soft tops or hard tops. The minimum total volume of luggage space is fixed, but it can apparently be made up of several small spaces. Scrutineers apparently have the job of deciding whether the car gives adequate comfort and weather protection for touring.

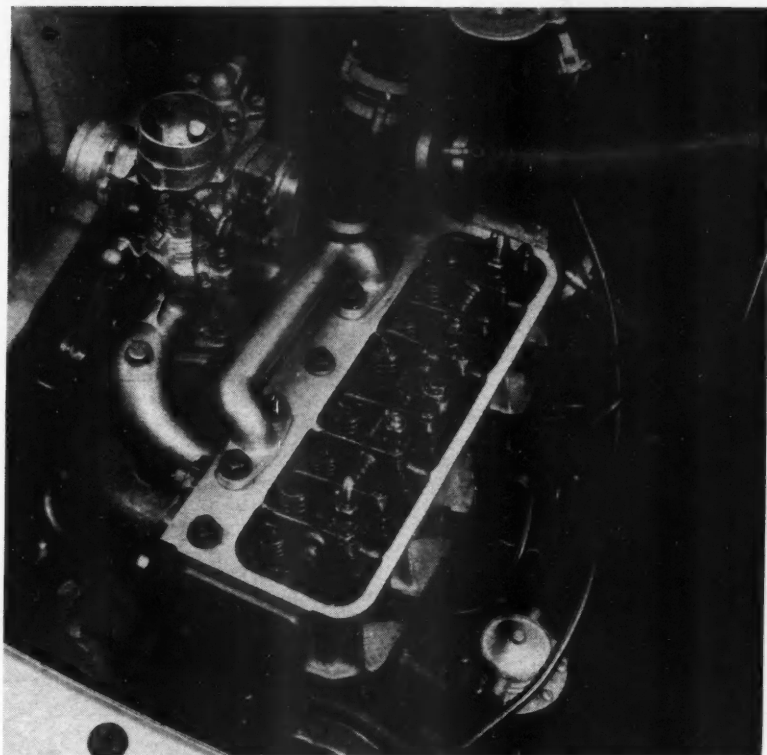
MILLE MIGLIA Latest news of the Mille Miglia is that it is to be run over last year's course, but restricted to touring cars under 1600cc. No sports cars, and no Gran Turismo. Up to 1000cc only two seats are required. There should be a flock of Renaults, Morris Minors, Goggomobils, DKWs, Austin A-35s, Standards, and the new Triumph Tens, plus Saabs, Dyna-Panhard, and Lloyds, with rear seats removed. Up to 1600cc, with four seats obligatory, include Austin A-55, MG Magnette, Riley 1½-liter, Wolseley 1500, Metropolitan, Skoda, Lancia Appia II, Alfa Giulietta, Fiat 1100 and 1200 and Goliath 1100. There should be a tremendous rush of entries for the chance of a glorious 1000-mile dash around Italy without the need to keep looking over your shoulder to spot something coming by at 170 mph. Alfa Giuliettas will be strongly fancied for an outright win.

MONTE CARLO The Monte Carlo Rally has entirely changed its character this year. Ever since the war, it has been apparent that modern cars and drivers are more than capable of dealing with winter conditions in that part of Europe which lies this side of the Iron Curtain. The organizers' hopes of finding a winner on the road without using special eliminating tests have been further thwarted by a succession of mild winters, at least during Rally week. So this time, competitors go direct to Monte Carlo from the usual starting points, and after a few hours' rest start off on a 600-mile circuit around some of the trickiest French Alpine roads, plentifully sprinkled with time checks, open and secret, to keep them to a tight regularity schedule. Navigators will have a wonderful time with stop watches, average speed meters and slide rules, and if there is ice or snow it will be quite hectic. Old hands sneer at this as a sort of watchmakers' benefit, but no one has so far come up with any better solution. I expect to be competing with Les Leston in one of the new 1½-liter Rileys.

AUSTRALIA The motor industry "down under" is steadily developing along independent lines. The General Motors Holden has so far been the only all-Australian car, but others are working toward local production of cars exclusive to Australia. Last year Chrysler announced the Royal, which seemed to be based on 1956 Plymouth body stampings with a six-cylinder L-head engine in two sizes, according to whether transmission was synchromesh or PowerFlite. Now the British Motor Corp. has started building the Morris Marshal, which looks like an Austin A-95, with different grille and side decor. This is not the all-Australian BMC car, which is expected to appear some time next year and is rumored to be based on the Wolseley 1500-Riley 1½-liter body design, but with a longer wheelbase.

/GORDON WILKINS

DAUPHINE GORDINI



... sports this new engine

by Gordon Wilkins Overseas Correspondent

THE NEW RENAULT Dauphine Gordini has been produced to meet the demand of sports enthusiasts for extra power and a four-speed gearbox to permit fuller exploitation of the fine roadholding abilities of France's famous small sedan. Developed in collaboration with Amédée Gordini, famous French racing car builder, it is outwardly the same as the standard model except for a script nameplate on the rear hood panel, marque crestplate and chrome hood trim strip, but it has a four-speed gearbox and modified engine.

The cylinder head and the intake and exhaust manifolds are all new. Standard valve sizes have been retained but valve

springs are stronger and valve life is increased. The carburetor is larger, a Solex 32 PICBT with an electric heater to facilitate cold starting instead of the thermostatically-controlled hotspot. An offset water pipe with two outlets leads water from cylinder head to radiator. Compression ratio is raised from 7.25 to 7.6 to 1; power is increased from 30 bhp at 4250 rpm to 38 bhp at 5000 rpm. A new set of gears, giving four speeds with synchromesh for the top three, fits into the standard three-speed gearbox casing, giving overall ratios of 16.19:1, 9.21:1, 6.38:1 and 4.68:1.

The first surprise when driving the new Gordini is the feeling of extra power

obtained without impairing the smoothness or quietness of the engine. Shifting gears is easy, but the lever still wobbles under the effects of torque reaction. I saw speedometer readings of 50 mph in second, over 71 in third, and 81 in top. Acceleration from a standstill to an indicated 50 mph took about 12 seconds. With these modifications the Dauphine becomes a very potent little road car, with much better performance in the overtaking ranges and much better climbing potential. Third is a particularly useful gear, bringing in real urge where the standard model labors rather hard in top.

Extra power does, however, make it easier to provoke momentary wheelspin when cornering hard on full throttle, and the higher general level of performance makes it possible to produce tail-end breakaway, where this was generally difficult with the standard model. Shorter rear coil springs are now being used by some European competition specialists and would certainly help in keeping rear wheel camber angles within desirable limits during very fast cornering. There is also a faster steering gear, used on the works' team cars and by certain French tuning experts, which would be an asset in correcting incipient slides with a minimum of wheel twirling. These modifications are not at present available from Renault, but they are offered by various French and Belgian specialists. I have tried cars so



IDENTIFICATION marks of new Gordini are chrome hood trim and crestplate.

fitted, and they make it possible to corner the Dauphine at staggering speeds.

Initial production of 10 cars per day will rise to 30 per day by March. Although the Dauphine Gordini is a very satisfying road car, its future in competition seems somewhat obscure, at least until a thousand or so have been built. This would allow it to compete with strong hopes of success as a series production car. At present the size and weight of the bodywork are against it in the Gran Turismo and other complex divisions of the current rally regulations reserved for special models. Although various coachbuilders have built prototypes of Dauphine sports coupes, there is no news yet of any series production. /MT



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HANDY hints

by Rodger Darling

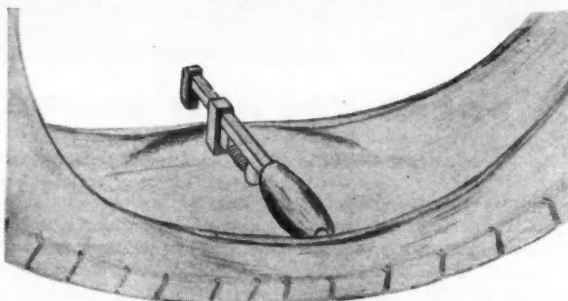
WINTER IS NEW BATTERY TIME—When you have to replace the battery that came with your car, measure its holder carefully... you may be able to fit in a larger size (same voltage, of course). Some "old pro's" driving the bigger cars prefer truck batteries! At least get one with *more plates and a higher ampere-hour output*. You need more than an original equipment battery with all those added accessories, and perhaps a weary ignition system. More and larger plates provide more and livelier current and—so important in winter's congealing cold and early darkness—the *ability to keep delivering a hot spark* long after smaller batteries are dead.

A "QUICK CHARGE"—After your battery has had a tough time starting your car some cold morning, it's a good idea to run the engine at a fast idle (garage doors open) for 15 minutes in case you have to use the starter again before open-road driving has

a chance to recharge your battery. (With slower winter traffic, terrific starting strain, early darkness, heater, radio, etc., the generator often can't keep up with battery output.) However, few cars have a hand throttle and it's no fun just sitting idling a car, so lean a block or book or wedge a stick to depress the accelerator just enough for that fast (not racing) idle while you dunk another doughnut. It's nice to know that a weak battery charges best when cold!

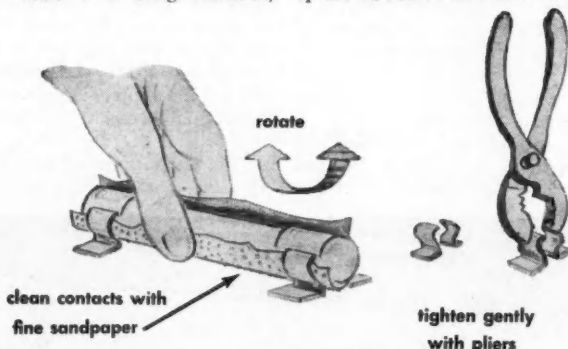
CUT WHEEL SPIN—As you know, the reason you can't drive off an icy spot is that the (regular) differential lets *all* the power "escape" through the one wheel that spins helplessly because it meets no "road resistance." You may be able to supply enough resistance to force the differential to turn *both* rear wheels without spinning—and thus move you away from that slippery area—by creeping off *with the hand-brake partially set* (wheel brake, not driveshaft type).

DRIVEWAY STAYS SHOVELED—Ever have to shovel your way back INTO your driveway that you shoveled OUT earlier in the day? Here's how to keep snowplows from refilling this opening: Dig a notch about 18 inches wide and eight feet long in the snowbank in the direction from which the plow comes. Following the line of previous plowings, the plow's blade will empty into this "pocket," leaving no snow to shove into your driveway! Don't make the pocket too wide and obvious.



WRENCH AS TIRE SPREADER—To hold a tire "open" while it is being examined,

cleaned, patched, or having a nail removed, spread the beads with a small monkey-wrench.



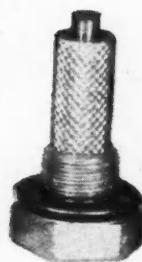
WHEN FUSE BLOWS... replace it. New fuses, however, may continue to blow unless you *correct the cause*: **LOOSE CONNECTIONS**—especially on battery terminals or fuse clips (clean and tighten as shown in *sketch*). **SHORT CIRCUIT**—wires frayed bare and rubbing each other or bare metal. **OVERLOAD**—too many electric fixtures wired through that

fuse. Added accessories should be separately fused and properly wired. (No spare fuse? In extreme emergency wrap burnt fuse in cigarette tinfoil, but *be careful*. This is a good way to burn out headlights, wiring, or start a fire. As soon as emergency is over, remove this makeshift fuse and replace with fuse of correct capacity.)



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FOR YEARS we have known that sulphur and other impurities are found in even the best grades of regular and high-test gasoline. When the fuel is burned, tiny amounts of this sulphur and impurities are left behind to "blow-by" even the best and newest of piston rings into the engine oil. What happens next?

Some water moisture is always present in your crankcase oil. It combines with the sulphur and other trace impurities to form sulphuric acids, in measurable quantities. And then?

Attacking cylinder walls, pistons and bearings, these acids—if left to accumulate in your engine oil—wear away the close tolerances originally built into finely machined engine parts. No engine ever made—not even the finest—can hope to escape the loss of power and compression that follows. Your own car, if over 6 months old, may already show the symptoms of this acid-caused damage in increased filter sludge and carbon sludge on piston crowns.

If so, here is how you can prevent it!

MAGNA-POWER STOPS ACID WEAR

With test results to show that an alkaline agent would neutralize the acids and inhibit sludge and carbon formation, the Johns Manufacturing Co. has prepared a special magnesium alloy drain plug called Magna-Power. Tests conducted by the Canadian National Research Council (Canada's Bureau of Standards) and the Southern Analytical Laboratory in Jacksonville, Fla., have found that this magnesium alloy (1) effectively neutralizes corrosive engine acids, (2) greatly inhibits the formation of sludges, gums and resins and (3) destroys catalysts that cause oil break-

down products which foul spark plugs and cause preignition and internal shorting. Further experiments showed that by attaching a powerful Alnico magnet to the plug many iron and steel filings in the drain pan could be removed.



(unretouched)

Filter and oil sample (left) from a car using a Magna-Power plug show less sludge and contaminants—both oil and filter are still clean. Filter and oil sample (right) from car without Magna-Power show normal heavy deposits at same mileage.



(unretouched)

Heavy carbon deposits are actually "baked" on the piston crown (right). Formation of carbon on piston (left) shows remarkable difference when resins are inhibited by Magna-Power. Build-up of carbon causes loss of power and increases oil.

HERE ARE THE BENEFITS

With reduced acid wear and sludge formation, you get increased power for quicker starting and faster pick-ups. Elimination of many harmful spark plug deposits mean smoother driving, longer spark plug life. Less sludge also means (according to the Canadian Research Council) that oil can be used well over 3,000 miles and filter life is often doubled.

Road tests also show that wear on pistons, rings, valves and other parts can be reduced BY AS MUCH AS 80%. This means a car may be driven well over 100,000 miles without an overhaul. Meanwhile the powerful magnet draws iron and steel filings out of the oil system.

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WHAT USERS SAY:

LOWER MAINTENANCE COSTS

"I must write you about my Magna Power on my Packard Taxicab. I installed it when the car had 27,000 miles on it and the car now has 105,000 miles and is still going fine, runs very smooth and is not hard on oil yet. My spark plugs have over 60,000 miles on them and look good for that much more. My car has no work on it in all that time. I change oil every 8,000 miles and sometimes more."

L. W.
Tomahawk, Wisconsin

"After I put one of these on my former car a 1950 Studebaker Commander, I never touched the motor or even removed the head; and when I turned the car in (it had about 42,000 miles on it) I was getting a top speed of ten miles more per hour than I had been able to obtain before installation of your neutralizer. I would not operate a car without it."

E. G. F.
Erie, Pennsylvania

LONGER ENGINE LIFE

"Please rush me a Magna Power Plug for my new Nash Rambler, I had one in my Hudson and also my Plymouth and they are both running and in perfect shape. The Hudson has 90,000 miles or more and the Plymouth has 65,000, neither one has had the head off."

C. A. W.
Jefferson City, Mo.

"Enclosed is a money order for a Magna-Power plug for my 1956 Ford. I used one of your plugs in my 1955 Ford 6. I put 90,340 miles on the car, and the motor was as good as new when I traded it off."

J. A. W.
Terre Haute, Indiana

"May 7, 1953 you mailed me an Acid Neutralizer drain plug for my 1940 Dodge motor. This car was completely overhauled at 68,000 miles at which time the Magna-Power was installed; it was driven 70,000 miles after that and was using very little oil and had loads of power when traded in. It is still being driven at this time."

J. H. R.
Pomona, California

LESS OIL USAGE

"I have used Magna-Power drain plugs for over a year. I think they are the greatest. I used one in my old car—a 1953 Nash Ambassador, before I installed it the car used one quart of oil in 700 to 800 miles (50¢ H.D. oil). After installing, my wife and I made a trip from Denver, Colorado to Fort Bragg, N.C. Round trip plus lots of hard, fast driving, the car got between 20 to 22 miles to the gallon, and only used 1½ quarts of oil in better than 5,000 miles. I would like to put in an order for one for my new car, a 1955 Nash Ambassador V8. Please send one as soon as possible, because I hate to drive my car without one."

W. S. O.
Denver, Colorado

"I bought a 1953 Studebaker for which I bought a Magna-

Power plug. I traded it in January 28, 1956 on a new Chevrolet Station Wagon. I drove the 1953 Studebaker 47,000 miles in 26 months and I still got 3,000 miles to a quart of oil. I changed oil at that time. I took a trip to Topeka, Kansas last September and I didn't change oil until I returned to L.A., approximately 5,000 miles. I used one quart on the trip. I am very pleased that I bought the Magna-Power plug. I believe it did wonders. I'd like one now for my Chevrolet V8 Station Wagon 1956."

M. H. B.
Los Angeles, Calif.

SPARK PLUGS LAST LONGER

"I am sending for my Magna-Power to put on our new car. We used our Magna-Power on our 1952 Oldsmobile and never had the spark plugs out after we put the Magna-Power plug in, almost 30,000 miles. When we traded it off, we were adding a quart of oil in about 3,000 miles."

C. R. D.
Boise, Idaho

"Put a Magna-Power plug in a 1950 Ford 6 with 50,000 miles on it. Installed a new set of plugs and points. At 90,000 miles I examined the plugs and I couldn't believe it. They looked like new. Hope you have a Magna-Power plug for my MG-TD."

K. R. C.
Jacksonville, Fla.

TRADE-IN VALUE HIGHER

"I have just traded my 1954 Ford for a 1957 model and am not wasting any time in ordering my Magna-Power plug. My car had 70,000 miles registered when I traded and can truthfully say I did not at any time burn any oil due to the Magna-Power oil plug and radiator insert. My car being above average in appearance and mechanically perfect brought me more than the book value. It was sold the same day for above the book value."

A. R.
New Rochelle, N. Y.

"Please send me a Magna-Power for a 1956 Mercury Montclair. Bought one a couple of years ago for a 1954 Mercury and I really got top trade in because the '54 ran so smooth."

R. A. P.
Edmond, Oklahoma

"Enclosed you will find my order for an acid neutralizer for my 1956 Ford. I used a Magna-Power neutralizer in my 1954 Ford which I drove 70,000 miles. I used only two sets of spark plugs during this mileage and after the plugs were cleaned during my periodic tune-ups, they tested almost as good as new. My gasoline mileage remained constantly good and the compression after 70,000 miles still checked out to new car specifications. The exceptionally good running condition of my car enabled me to get an unusually good trade-in price towards my 1956 car and the dealer sold my 1954 car within 24 hours after taking it in trade. I have been very enthusiastic in recommending your product to my friends and I certainly want to protect my new car with a Magna-Plug."

J. W. T.
Attleboro, Mass.

PERFORMANCE DATA FROM MAGNA-POWER USERS

'55 Volkswagen

Total engine miles 24,000
Total with Magna-Power 23,000
Spark plug life 24,000
User Comments: "Since installing your plug my spark plug set is still functioning well at 24,000 miles. 8,000 to 10,000 miles was my previous experience."

S. E. A.
Los Angeles, Calif.

'53 Plymouth

Total engine miles 22,400
Total with Magna-Power 14,000
Spark plug life 16,000
User Comments: "My mechanic is amazed that there is no grit on the dipstick whenever he checks the oil. I never change my oil except seasonally and even then it's not necessary. The spark plug mileage speaks for itself. The best investment I ever made."

M. F.
Brooklyn, N. Y.

'52 Buick

Total engine miles 48,000
Total with Magna-Power 48,000
Spark plug life 35,000
User Comments: "Changed plugs at 35,000 miles but doubt they needed it then. Still running with as much power as ever and not burning any extra oil."

H. J. A.
Modesto, Calif.

'53 Chevrolet

Total engine miles 46,924
Total with Magna-Power 21,924
Spark plug life 16,294
User Comments: "I still have the Chevrolet for which I bought the first Magna-Power. Believe it or not I get between 17 and 18 miles per gallon in the city and I still have the pickup that the car had when it was new. I have become one of your stanch boosters."

G. T. C.
Tampa, Florida

'53 Porsche America

Total engine miles 24,395
Total with Magna-Power 19,340
Spark plug life 18,000
User Comments: "Had frequent tune-ups before using Magna-Power, especially fouled plugs. Haven't had to take the plugs out in 18,000 miles. Engine runs like a clock."

E. C. D.
Mount Dora, Florida

JOHNS RESEARCH LABORATORIES, DEPT. 2-M, MIDDLESEX, N.J.

'55 Ford Fairlane

Total engine miles 55,000
Total with Magna-Power 45,000
Spark plug life 5,000
User Comments: "After 55,000 miles I got 4,000-plus miles per quart of oil under any driving conditions. We're sold!"
E. E. L.
Toms River, N. J.

'54 Ford Country Sedan

Total engine miles 61,467
Total with Magna-Power 50,000
Spark plug life 40,000
User Comments: "Plugs installed at 20,000 miles and they are still going with two cleanings. As a result of the excellent way my car performed I got a top trade-in value on my new car—about \$300 over average for the model year."

G. S. McE.
Decatur, Illinois

'53 Ford

Total engine miles 67,700
Total with Magna-Power 52,000
Spark plug life 8,000
User Comments: "I was using 1 quart of oil to 900 miles. After installing Magna-Power, oil mileage went up to 2,000. Motor was operating perfectly at 67,700."

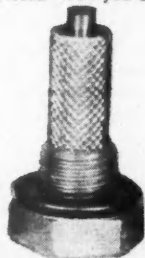
H. A.
E. Boundbrook, N. J.

YOU'LL WANT THESE BENEFITS FOR YOUR OWN CAR

If Magna-Power can increase your car's useful life, maintain its like-new performance and cut your costs of operation to a new low— isn't it worth the trial? We make no claims that are not substantiated by the successful experience of hundreds and thousands of car owners who have become satisfied users and endorser of Magna-Power over the last few years.

WHY MAGNA-POWER IS NOT ORIGINAL EQUIPMENT

A new car, or one that has been rebuilt, should go through a break-in period. During the auto's first 1,000 miles rings are seated and the new engine, through a small amount of necessary wear, "loosens up" for maximum efficiency. The time to install Magna-Power in a new car is at the end of the break-in period when you change oil.



\$4⁹⁵
PAT.
APP. FOR

'54 Ford

Total engine miles 68,490
Total with Magna-Power 63,490
Spark plug life 23,000
User Comments: "Your plug looks very good. Still getting almost 2,000 miles before adding a quart of oil. Points have been good for about 23,000 miles."

J. H. S.
East Hartford, Conn.

'53 Studebaker

Total engine miles 55,000
Total with Magna-Power 28,000
Spark plug life 28,000
User Comments: "Installed Magna-Power at 27,000 miles. Traded car at 55,000 miles with same spark plugs. When plug installed, car used 1 quart of oil in 2,000 miles. When traded, it used less."

F. H.
Cookeville, Tenn.

'52 Plymouth

Total engine miles 43,720
Total with Magna-Power 23,000
Spark plug life 23,000
User Comments: "I installed Magna-Power and new plugs at 19,000—never had plugs cleaned or gapped—sold car at 43,720 miles—had extreme pep and power—changed oil at 2,500 usually about 1 pint low—was averaging on road about 17.4 mpg—it's well worth the investment."

W. F. D.
Martinsville, Va.

Canadian orders filled from Toronto—no duty, no red tape . . . \$4.95 each Canadian Dollars. Send to Magna-Power Sales Co., 190 Brookside Ave., Toronto 9, Ont. In Mexico: Apartado 7776, Mexico 1, D.F.

UNLIMITED MONEY BACK GUARANTEE

If you are not completely satisfied with Magna-Power, return it at any time (years from now if you wish) for immediate refund. Send coupon today!

(Use Margin If Needed)

JOHNS MFG. CO., DEPT. 2-M
MIDDLESEX, N.J.

My car is a.....(make).....(year).
Please send me, postpaid, a MAGNA-POWER acid neutralizer. I enclose \$4.95. I understand that it is sold with an unconditional guarantee of satisfaction or my money back!

SAVE—\$1.00 on 2nd car, get two for \$8.90.

NAME.....

ADDRESS.....

CITY, ZONE, STATE.....

driving
around



with
walt
woron

*in
ENGLAND,
where
left is
right . . .
and
crowded,
too!*

EUROPE HAS ALWAYS SEEMED close, yet far: close in contact because of our coverage of their cars and our affinity for the people; far because the distance from Los Angeles is so great. Ever since we first started to cover the European cars (over eight years ago) it has been my desire to visit the countries where these cars are built. Then, at long last, the right combination of circumstances arose, and the happy result—a quick, four-week tour through England, Germany, Italy and France. The end to the wealth of information and understanding derived from this whirlwind circuit is not yet in sight.

After our smooth trans-Atlantic crossing by Pan American Super Clipper, we dropped down to the London Airport at 9:30 in the morning. Assembled into an airport bus, we were then driven a short distance for our customs inspection. A few minutes later the publisher and I were sitting in the back seat of a new Humber Hawk with a Rootes Ltd. driver at the wheel (on the right, naturally), and Joyce Wilkins, the wife of our European correspondent, in the other seat. Looking back at my first impressions, they are probably pretty similar to those that would be made on most Americans.

Most cars in London, to an American, are "foreign cars" but the *real* foreign cars are the occasional Cadillac or Thunderbird. Practically all cars are British, ranging in age from one year to near-antiquity, with most of them being in surprisingly good condition for their age. You'll see Vauxhalls, Morrisies, Daimlers, Standards, Alvises, A.C.s, Humbers, Vanguards, Fords, enough Rolls-Royces and Bentleys to make them seem commonplace, and a surprisingly large number of them (from new Hillmans to vintage Rolls) chauffeur-driven.

Being accustomed to years of driving on the right side of the road, you're safest at first with a Britisher doing the driving. Driving on the left side is strange, and an American's natural reaction is to pull to the right to avoid an accident. The traffic is heavy, what with the countless cars, 7500 taxis, the two-decker busses

that long ago disappeared from the streets of New York, the abundant cyclists, and a motley collection of tricycle cars and trucks. Around 5 or 6 o'clock of an evening, you could be in New York's Greenwich Village, for not only does the decor remind you of it, but the abominable traffic situation as well. You can well understand why the law for taxicabs is that they must turn in a radius less than 30 feet (almost all do in 20 to 24 feet).

On our first trip out of the environs of London, we used the Humber. As we got up to a fair cruising speed we encountered our first obstacle—a slow-moving truck. While we slowed down and waited for a safe place to pass, an Austin behind us cut over the white line, down the tree-lined tunnel, around the bend, narrowly missing an oncoming car. In the days to follow, I was to learn that this is well-nigh par for the course; if there's room to go around, go, and get back on your own few feet of the roadway if you can. And in fact, it's either charge like that or be held up incessantly by obstructions such as groups of cyclists, trucks, and day-dreaming drivers. It's plain to see why the sports car grew up as a necessity for driving hard, and just as plain to see why they've practically disappeared in Great Britain, what with the advent of so many cars.

About the most frightening aspect of driving on country roads is the almost universal acceptance of using sidelamps (parking lights) instead of headlights. This means that fast, slow, or indifferent, two rows of cars are passing each other at speeds well above a total 100 mph with nothing better to illuminate the road than natural starlight. Of course, you *do* encounter some drivers who use their headlights, but this only succeeds in blinding you so you can't see the next few cars. And that puts you in great shape! Of course, you *can* use your headlights if you're up to the blinking of lights from other cars and the nasty epithets hurled by the drivers, "Use your sidelamps, you blighter!"

In all fairness, though, you do use your lights where you really need them—that is, where you can't see the black road in the black countryside. Even then, if you're the courteous type, you'll switch to sidelamps when you see an approaching vehicle.

In the parts of England we saw, interest in cars runs exceptionally high, whether by necessity or choice is hard to tell. Thousands flock to Earls Court on opening day to see the new cars, paying £1 (\$2.80) per head. Used car prices, especially for the rare classics (vintage to Britishers), are at prices comparable to new cars, which also partly explains the good condition of most old cars. Many 10-to-20-year-old cars are bringing as much now as they did when new. But, if you need the transportation, you'll pay the \$473 plus tax asked for a '38 Alvis sports tourer, or the \$277 asked for a '36 Austin 10 Lichfield Cabriolet, even though it is advertised by the *London Weekly Advertiser* to be a "hideous little runabout for the masochist," with "rattles everywhere, a noisy, gormless engine, with a two-foot leap every time the clutch is let out," and an "ideal car for the man who hates his family."

During our stay in Britain, we were invited by the Guild of Motoring Writers to the 10th Motor Show Test Day for the purpose of driving some of the cars exhibited at Earls Court. The driving was over the Goodwood Motor Course, a racing circuit for sports cars near Chichester, Sussex, some 60 miles out of London. The main purpose is for overseas journalists, British journalists, and manufacturing reps to get acquainted with British products.

Still having the Humber Hawk at our disposal, we rendezvoused at 8:30 at the Royal Automobile Club, along with the other journalists who were to drive in this event. The caravan would follow a route southwest toward Chichester over winding country lanes, with countless turn-offs and unfamiliar signs that could easily confuse a stranger. We therefore arranged to follow a group of three Jags, which were part of the 68 cars to be driven later at the circuit. To the Humber's credit, I can say that with the Jags being driven flat out whenever possible, and their not slowing down to see if I was close behind, I managed to always keep within shouting distance. With the 2267cc four-cylinder engine and automatic transmission pitted against a 2.4, 3.4, XK-150, and Mark VII Jaguar, I'd say that was mighty commendable performance on the Humber's part.

Arriving at Goodwood, we waited a few minutes while procedures were worked out, then selected from among the available cars. I tried mostly to get a general impression of the course with the first car, a Turner sports car, then after that drove cars around that I hadn't driven before. Though three laps around a fast circuit like Goodwood is hardly enough to tell you all you'd like to know about a particular car, it does help to formulate some impression, good or bad.

The Turner, a Fiberglass-bodied job with a 948cc (58-cubic-inch) four-cylinder engine is a fairly new sports car, both to Britain and the States. At about \$2100 it will be available through Woolverton Motors in North Hollywood, Calif. At this price it just might catch on. It holds well in the corners, does not have too many vices, can drift or slide equally well, and has an adequate gearshift with fair power. Some improvements in trim are needed before many persons will look favorably upon it, but it's a fair start.

The Allard Palm Beach Mark II convertible came next (see page 43). You may remember the Palm Beach of a few years ago that never quite made it with the Ford Zephyr engine. This car, however, is alike in name only. The chassis, body, and engine (a Jag 3.4 or Cadillac, as you prefer) are all new. It was a long step up in power from the Turner, but the Allard's tendency to break too quickly in corners needs some improving. On the third lap around I was close on Johnny Lurani in an Austin-Healey 100. Though I could have probably passed him with the Allard's superior power, the Allard broke loose at the rear wheels quicker than the Austin-Healey.

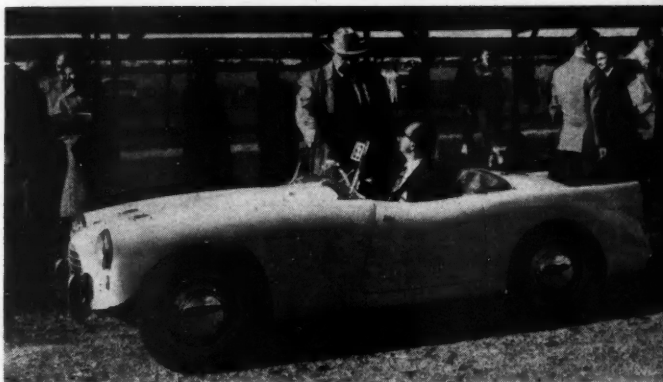
From among the cars of the BMC group not presently being

imported, the Wolseley 1500 sedan looks like the next bet. Here's a car in the VW-Morris-Renault class that might be serious competition, except its higher price seems a bit unrealistic. Four average-sized adults have enough room, ride quite as comfortably as in a Morris, though there is somewhat more heeling in corners. The floorshift is positive, clutch action is immediate, acceleration is on the order of the majority of small cars.

It was a long step up to the next car, an Alvis T.C. 108/6 Saloon. Here's a beautifully detailed car with body designed by Beutler of Switzerland on a chassis with a three-liter engine that could well fit under a sports car. A full complement of passengers was a drawback to particularly good acceleration on the circuit, but it felt like it could hold its own against most other touring cars. Its action in corners brought a smile to the face of one of the rear seat passengers, who wryly commented, "This corners as good as my Jag—better, I think."

The Berkeley (or Barclay as they say in England) was my next surprise. Here's a 70-inch-wheelbase sports car with only a three-cylinder 492cc engine that scoots along fast enough to keep out of the way of an MG-TC. It's so light that one man can lift the front end, yet it could hardly be considered too light to hold the road. The gearshift in its present form is not the most convenient. The gear positions are all in line as on some motorcycles, and the detents are not positive enough to prevent

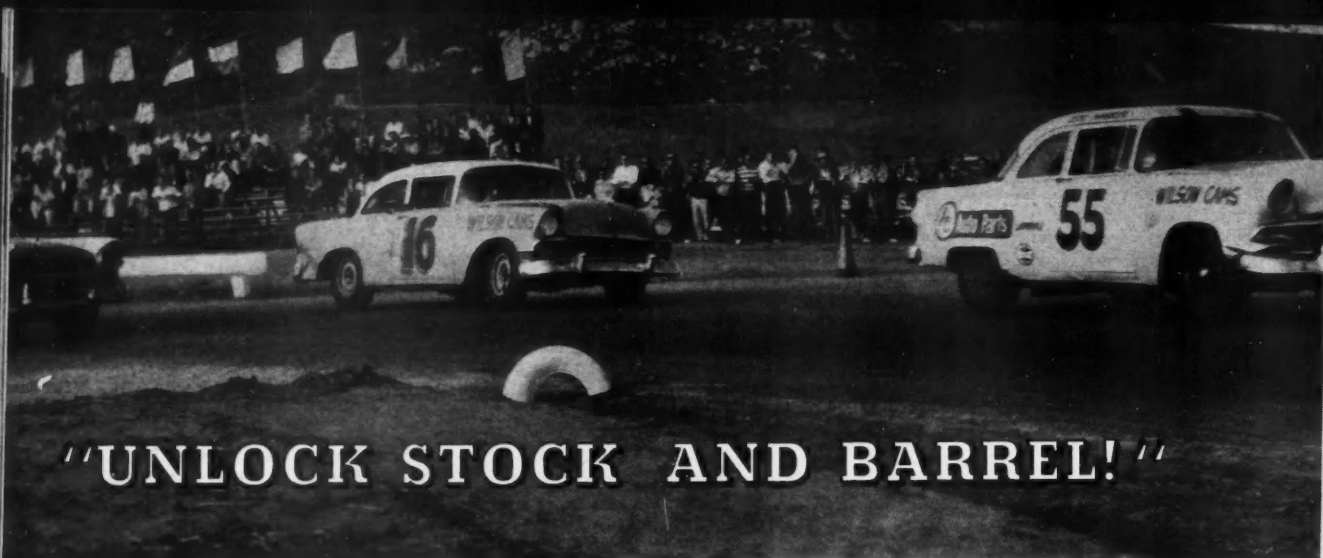
continued on page 79



NEW WEST COAST distributor for Turner, Tex Stevenson of Woolverton Motors, discusses fine points of the new car with the editor at Goodwood Motor Course.



LOWNESS of the Lotus VII is emphasized by the kneeling mechanic adjusting shift linkage. Of all the cars driven at Goodwood, this one was definitely the most fun.



"UNLOCK STOCK AND BARREL!"

CLOSE COMPETITION FINDS AMAZING STOCKS CORNERING FAST AND FLAT AT RIVERSIDE RACEWAY'S DECEMBER CHAMPIONSHIP RACES

That's the cry of stock car racers who modify Detroit products for greater performance—with safety!

THE PERFORMANCE of the "stock" cars at Riverside International Raceway in the final National Championship stock car race of the season must have made the Detroit ad writers feel like prophets.

The powerful, square-fronted sedans and hardtops barrelled down the mile-long straight at speeds up to and over 130 mph. They handled like sports cars. Running the course in the same direction as the top sports cars did two weeks before, the '57 Mercs were slower by only 10 seconds a lap, and 30 mph slower

than the fastest sports car down the straight. (A 4.9 Ferrari holds the straightaway record at 163 mph.)

Also, all Detroit must have been pleasantly surprised to find that even if they did orphan stock car racing by edict this year, most of those same experts are still around faithfully grooming the same products.

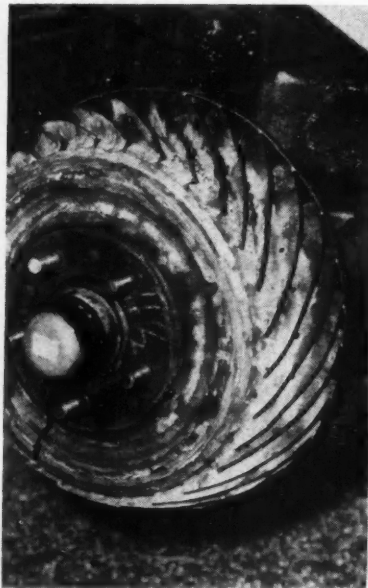
How can "stock" cars do this? They can't. It takes many changes, mainly in the suspension, to convert Detroit iron into machines that can do what these did. Here's how.

/MT

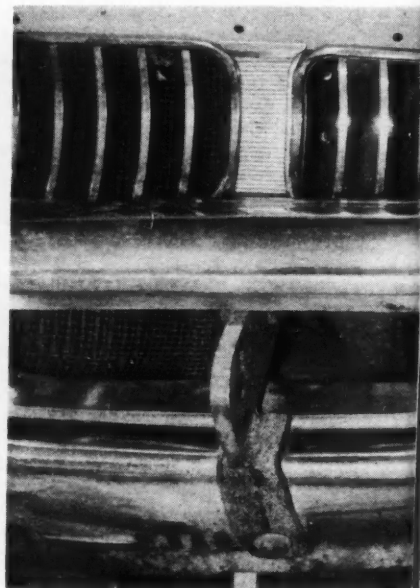
Photo Story by Russ Kelly



BRAKES are the primary concern of the drivers and mechanics alike. Here a '56 Ford uses a funnel-shaped, screened intake to pick up air for the front brakes. A

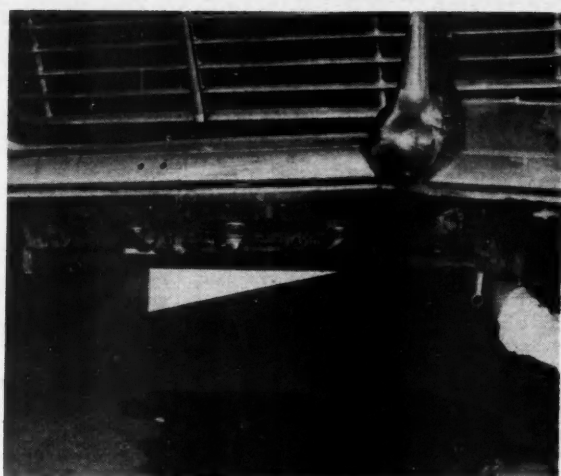


'57 Merc has generously-finned drums and ample air intakes, plus a flexible tube that carries air from the screened headlight orifice directly to the backing plate.

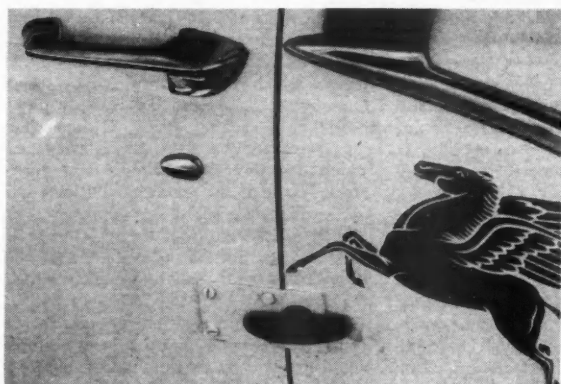




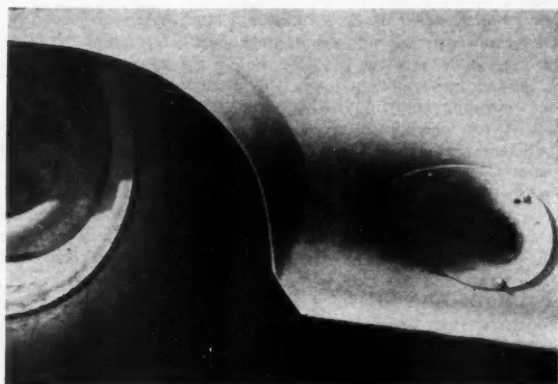
WHEELS, sometimes embarrassingly weak, receive the treatment. Steel-gusseted wheels were on '57 Merc.



FRONT ANTI-ROLL BAR has husky lever arms that are splined to the ends, similar to Kurtis torsion bars.



SAFETY FEATURE is a real positive door latch that can be quickly released by the driver leaning out of car.



SIDE EXHAUST exit on blown Ford eliminates the hassle of routing tailpipe past modified rear suspension.



SQUIRREL-CAGE roll bar supports are as strong as they look. Fan is one of a pair used to cool rear brakes through floor hole. Shoulder harness has shock absorber.



INTERIOR of '57 Merc appears quite functional. Stock car version of bucket seat looks practical and comfortable. Seat belts are used in addition to harness.

Motor sports

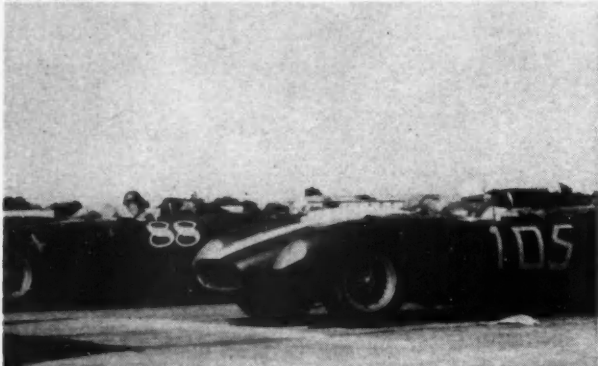
MASERATI WITHDRAW FROM RACING

Decision of Maserati to withdraw from official participation in motor racing highlights the financial problems which threaten the future of the sport. Maserati director Omer Orsi, son of the president, said this "painful decision" had been reached after examination of the last year's balance sheet, which showed that they had spent "far too much" on racing. "Motor racing has become too expensive for a small firm like ours," he said. In the face of this problem, efforts by race promoters to cut starting money are unrealistic, for they too are feeling the pinch.

F.I.A. has just ratified the existing Grand Prix formula through 1960, but it is not likely to provide very satisfactory competition with only Ferrari, Vanwall and BRM competing. It is late now for any newcomer, even if one were in sight, to start work on a new design for this formula. Even Mercedes-Benz will not return to Grand Prix racing until there is a new formula to set the designers new technical problems. So it looks as if the top formula may fall into eclipse during its last years as the previous (4½-liter unblown or 1½-liter blown) did before it. This would focus attention on Formula II (1500cc unblown) for which there are already active contestants in Ferrari, Lotus, Cooper and Lister. Osca and BRM might also join in. Problem is that sharper competition would make these cars nearly as costly to build, and even more difficult to drive, because they can have such a high power-to-weight ratio.

Maserati were regarded as probable Formula II contenders for 1958 but this is now ruled out. Their decision may have been influenced by the fact that their six-cylinder Formula I car was plainly outclassed and the new 12-cylinder car has so far proved very disappointing. They are also reported to be dissatisfied with the decision to limit World Championship sports car events to cars with engines up to three liters. This renders their great 4½-liter V8 car obsolete, just when the time and money expended on its development should have begun to show results. They will, however, continue to make and service sports racing cars and Gran Turismo models for private owners.

DON STEWART



STIRLING MOSS (105) starts in Nassau's 100-miler (story on page 75), speeds on straight, accepts congratulations.

For Fangio, this decision poses an acute personal problem. Should he choose this moment to retire, knowing that the big money and the big-time races are probably a thing of the past, or should he lend the weight of his prestige to try to keep the spectacle alive? Without him to draw the crowds, Grand Prix racing will be even more difficult to run as a paying proposition during 1958. It certainly gives Tony Vandervell a chance to use his powers of persuasion to try to secure the World Champion as leader of the Vanwall team. He has labored hard and long to put Britain in international motor racing. He could see all his dreams come true in 1958.

SPORTS PROSPECTS FOR 1958

Decisions of the F.I.A., some of them extremely belated, have at last set the pattern for international motor sports in 1958. It is a relief to know that the United States is once more officially represented in the councils of the F.I.A., the international ruling body for motor sports, by the Automobile Competition Committee. (See page 82.)

Grand Prix car constructors now have a clear run to the end of 1960 before they have to design to a new formula. Only difference from now on is that engines must run on gasoline instead of the various dopes used previously, when choice of fuel was free. As supplies of automobile gasoline vary locally throughout the world, and 100-octane is not very widely available, the grade specified is an aviation grade which has to be available for airlines.

All constructors are now anxiously running bench tests to see how much power they will lose and how far their engines must be modified. As usual, Ferrari is the only one who has already tested engines using gasoline under racing conditions. Last year, specific outputs of 120-125 bhp per liter were obtained, an all-time high for unblown piston engines. Currently a drop of up to 10 per cent is expected, but that will be offset by lower fuel consumption and lower fuel loads, so speeds may not be much reduced.

Minimum duration of true Grand Prix races counting for World Championship has been cut from 500 km. (310 miles) or three hours, to 300 km. (186 miles) or two hours. The longer races have often been tedious spectacles toward the end when many cars had dropped out, and the shorter events

may lead to more exciting racing. Other observers think the hotter pace will lead to still earlier retirements.

Formula II events (1500cc unblown) will be run on the same fuel as Formula I (2500cc unblown or 750cc supercharged), but Formula III (500cc unblown) still has no fuel restriction.

Ferrari has finally abandoned the fine V8 Formula I cars which he inherited from Lancia. Although when Ing. Jano produced them they were regarded as models of lightness, Ferrari has now found that his little Formula II car is perfectly capable of taking a Formula I V6 engine. He tried it out at Casablanca with the little 1500cc engine expanded to 2417cc as only Ferrari knows how, and developing nearly 280 bhp on a mixture of gasoline and benzol. This, in a car weighing only 1279 pounds, produced enough performance to suggest that this is the line of Ferrari development for 1958.

Ferrari will probably use a 12-cylinder unit with four overhead camshafts. Aston-Martin has, of course, the DBR-1 with three-liter engine well developed. Jaguar is hit, as their two existing engines fall on either side of the limit. However, an engine of three liters derived from the 3½-liter unit has already been tested and has given excellent power figures. This will be used in next season's Lister Jaguars which have been ordered by Briggs Cunningham and the Le Mans-winning Ecurie Ecosse among others. With 3.7-liter Jaguar engine, the 1957 Lister-Jaguar was widely regarded as Britain's fastest sports racing car, and its record of 11 wins and one second place out of 15 starts supported this. It accelerated from 0 to 100 mph in 11.2 seconds, but Aston-Martin claims that their DBR-1 with three-liter engine will do the same!

The decision to limit engine sizes is part of the general trend toward reduced performance since the Le Mans disaster, but it is relevant to reflect that the Mercedes-Benz involved in the Le Mans accident had an engine of under three liters. Even more severe is the limitation on the European Mountain Championship, run last year with a limit of two liters, but limited to 1½-liter cars for 1958. This is a sports car event and hill climbs generally have a very good safety record. One result may be to encourage constructors to produce engines suitable for both

continued on page 75



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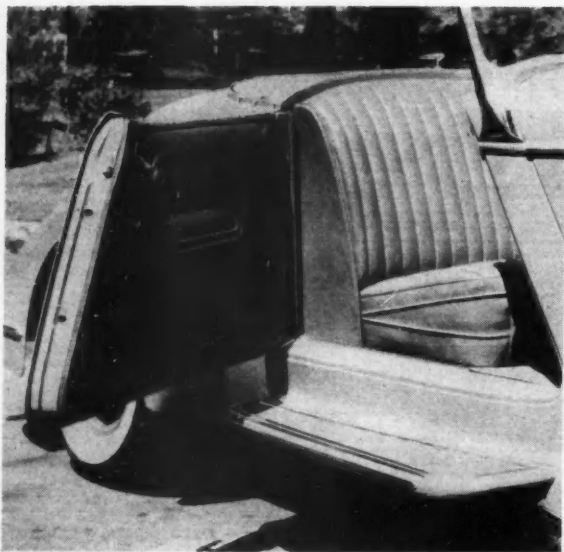
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Chariot with

Look again—It's not a LeBaron

by Robert J. Gottlieb *Classic Car Editor*

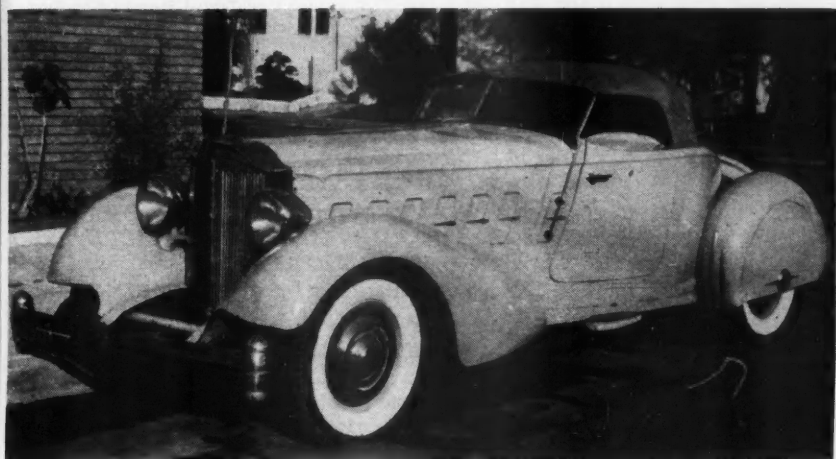


IN THE EARLY '30S Chrysler Corp. established an experimental custom body shop. Carl Breer, well known in classic car circles, was put in charge of the division to design and build a special car for Walter P. Chrysler, Jr. Artwork, design and construction (all original with Chrysler) resulted in the one-of-a-kind classic shown on these pages.

All classic enthusiasts are familiar with the '31 and '32 Chrysler LeBaron. Indeed there are many similarities in appearance between the car featured here and the Chrysler LeBaron. By a strange coincidence Breer and his crew came up with a design almost identical with a simultaneous secret project of LeBaron—a Packard speedster. There is no proof that either firm knew of the plans or designs of the other. As proof of ultimate similarity, however, inspect the pictures on these two pages carefully—one car is the Packard speedster. The special Chrysler was around until 1940. It then disappeared, and its present location is unknown.

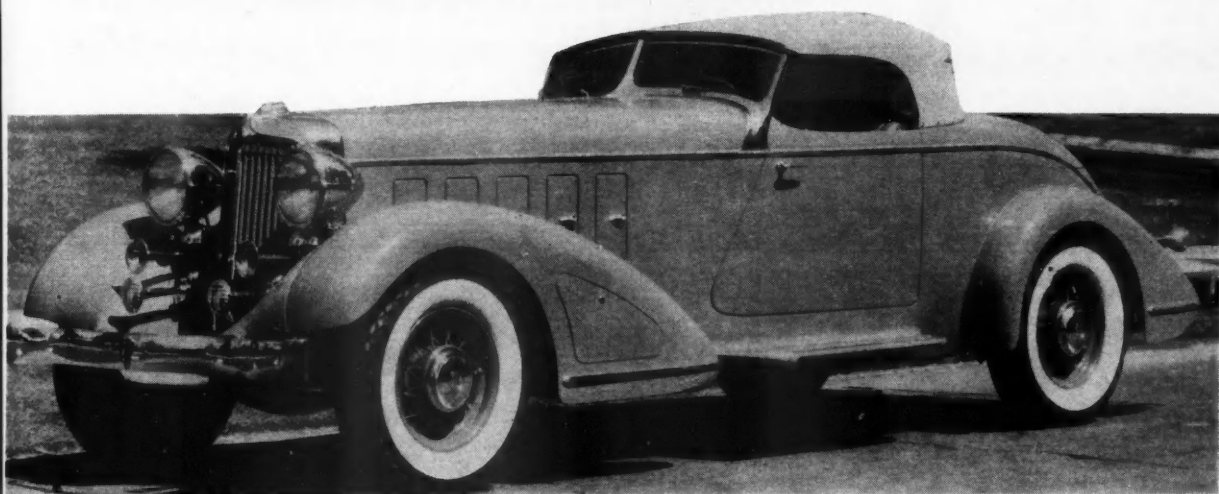
/MT

LEATHER UPHOLSTERY and door panels were plushier than on other customs. Note streamlined running board.

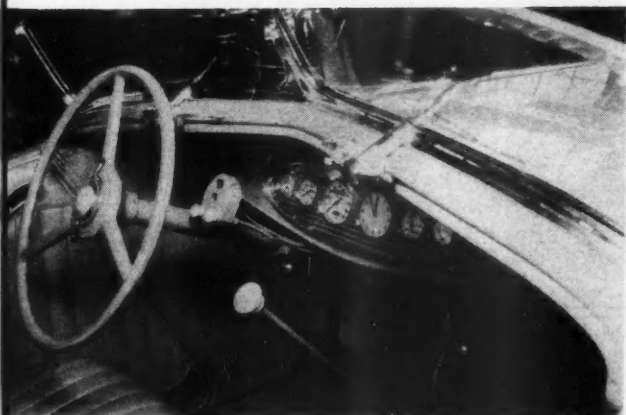


LOOK AGAIN. This is a 1933 Packard —not a Chrysler. LeBaron's experimental speedster had similar low-cut windshield and unique pontoon fender design, a radical departure from contemporary sweeping style.

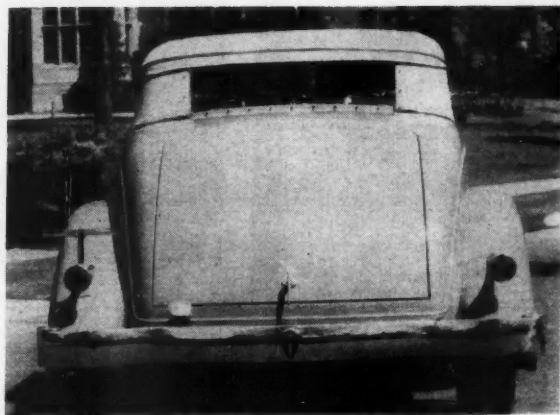
charm



SPECIAL CHRYSLER had many design features similar to LeBaron Packard (above). Fender contains unusual tool bin.

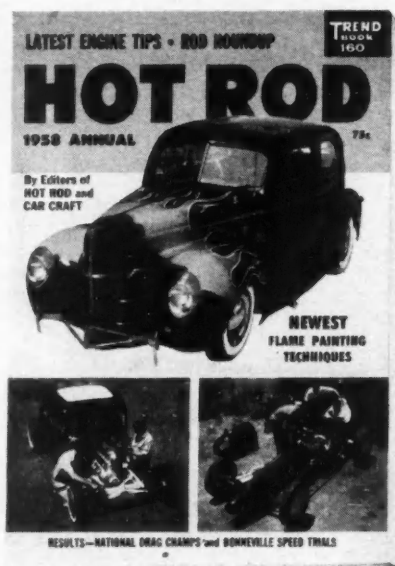


DASH AND WHEEL are practically identical to stock Chrysler. Windshield wiper units are located in the cowl.



REAR END design is clean, simple, uncluttered with chrome. Plain bars replace ornate Chrysler bumpers.

**THOSE
TWO
FAMOUS
CAR
ANNUALS**



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What to do with that

TRAFFIC TICKET

by Robert J. Gottlieb

RECENTLY I SAT in a judge's private office discussing the trial of a defendant whom I did not represent. "What are you going to decide in that matter?" I asked.

"There is a lot of doubt in my mind that he is guilty," the judge replied, "but I am going to find him guilty anyhow."

"What about the burden of proof on the prosecution to prove him guilty?"

The judge smiled wearily and changed the subject. In due course his decision of guilty was rendered.

On another occasion I inquired as to the sentence in a case where the defendant had already been found guilty. "I'll throw the book at him," the judge ranted. "I happen to have friends who know that man, and he is positively no good."

These true cases illustrate a point that no man-made law can overcome. Personal bias and prejudice, knowingly or unknowingly exercised, result in different penalties for different people. There are many rules of law designed to overcome this known human problem. Unfortunately, where human nature is concerned, recognized rules are often discarded.

WHAT IS BADLY NEEDED is a uniform schedule of penalties. It should apply to every motorist, and should also be applicable regardless of whether the motorist pleads guilty or is found guilty after trial. There is almost a uniform policy of fining a motorist less if he pleads guilty than if he is found guilty by trial. The reason appears to be that if the motorist pleads guilty he doesn't take up the time of the court. In fairness to our judicial system, the fault lies partly with the various legislative bodies who should enact proper laws to remedy this situation.

Then what are your chances if you plead, "Not guilty"? In some cities a plea of "Not guilty" is accepted in the spirit which the law intends. In others it is made clear to you that the courts **don't want you to fight** for your rights.

When you plead guilty you pay your fine and go home. If you plead "Not guilty," you must return to court on another day to try the case. To discourage "Not guilty" pleas, all sorts of gimmicks have been cooked up. In Buffalo, N.Y., if you decide to fight for your rights, you

must wait until the judge disposes of all routine matters before you get a date for your trial. In many cities, when you appear on the date designated for trial, the city attorney may request a continuance because the arresting officer is not in court. When this happens you have to return. Sometimes you have to return three or four times and the case is continued because the officer isn't ready, the judge isn't ready, or the city attorney isn't ready. Of course, you lose a day's pay each time this happens, but the procedure is legal, if not ethical, and the idea is to wear you out.



ANOTHER METHOD OF SNARING you on your way through the halls of justice without a trial is the "court costs system." Plead guilty to failing to signal before turning and your fine may be \$10. Plead innocent, go through a trial, and your fine may be \$10, \$20 or \$30. Because you had a trial you now have to pay court costs in addition to the fine, and these costs can range anywhere from \$5 to \$50.

In Florida a woman restaurant owner was advised by the Justice of the Peace to pay up or go to jail. "There's no chance of pleading 'Not guilty' here," he told her. And in Pennsylvania a Justice told a motorist to pay up because it was Sunday and he couldn't swear the witnesses in to have a trial.

In Beverly Hills, Calif., one of the judges has a reputation for being so "hard-boiled" that your chances of winning in his court are practically nil. The number of acquittals over the years is so small that a citizen is foolish to waste his time in that court.

In an April 1957 edition of the Los Angeles Mirror, a city judge was quoted as saying that a police officer was an expert witness, while a motorist was not. This, of course, is an incorrect statement of the law but it tends to show the close association between officers and judges. Too often the attitude of a judge is that you are guilty or you wouldn't be in court.

MUCH GOOD WOULD RESULT if all cities adopted a system used in Chicago. Each policeman is assigned two or three days per month in court. All tickets issued by the officer direct the motorist to appear in court on one of the days during which the officer will be in court. If the motorist chooses to plead "Not guilty," he can have an immediate trial because the officer is in court and ready to testify.

Other progressive cities permit a motorist who desires to plead "Not guilty" to write or telephone the court clerk for a court date. By way of contrast, Los Angeles policemen issue citations directing motorists to appear in court on various court dates, and some judges will not permit a plea of "Not guilty" unless the defendant is in court. A few judges, impressed with the dignity of their office, will not permit an attorney to enter a plea of guilt or innocence on behalf of a motorist unless the motorist is also in court.

Is it best, then, to hire a lawyer? Consider this. You get a citation which you feel is unjustified. The fine may be only \$10, or at the most \$25, but you rebel against pleading guilty to an offense which you did not commit. Even if the trial will take but five minutes the average attorney will expect a minimum charge of \$50 to represent you. Basic economics makes the investment in the attorney's services unwise.

You can represent yourself in court, but you're a sucker if you do. Under normal procedure the officer who gave you the citation testifies, after which you are supposed to cross-examine him. Mr. Average Motorist doesn't have the slightest idea

What to do with that TRAFFIC TICKET

continued

how to cross-examine. Ask the officer a question and if it is not properly phrased, the city attorney will object on the ground that the question is improper. I have seen hundreds of motorists attempt to cross-examine police officers. In most cases the objections of the city attorney are sustained—the officer does not have to answer the question, and the motorist gives up. The motorist then takes the stand and because he is unqualified in the ways of the law, does not know how to present his case. With this type of situation, the odds against him are almost insurmountable.

IF YOUR OFFENSE IS SERIOUS, don't make the mistake of going into court without representation. In addition to legal protection there is a psychological advantage to having an attorney at your side. In fairness to judges, they become weary of guilty motorists who plead "Not

guilty" in order to avoid a fine. When represented by counsel, the judge knows that you will be stuck for legal fees in addition to the fine, if any, and he also knows, from his knowledge of customary attorney's fees, that it is the principle of the thing more than the money involved. He will, therefore, regard you in a much more favorable light. Of course, if you are guilty, admit it and take your medicine. There is absolutely no assurance that an attorney will obtain an acquittal, and this is especially true where you did commit the offense.

As taxpayers, we all pay heavily for police protection, fire protection, etc. The increase in our taxes, if any, would be a very nominal amount if the legislature saw fit to provide a public defender in the traffic courts of our larger cities. A system such as this would prevent the conviction of many motorists because of

improper legal representation in court.

TRAFFIC COURTS ARE BIG BUSINESS in this country. The city of New York collects \$9 million a year; Los Angeles collects \$5 million a year; and, Chicago and Detroit each collect \$4 million a year. That reforms are required is evidenced by some of the foregoing case histories. The courts administer the law and are therefore the primary target for constructive criticism. However, a good portion of the fault lies in the laws which legislative bodies promulgate for use by the courts. The system can never be perfect, but an overhaul of those laws which are outmoded, outdated and act as a trap rather than for what they were originally designed, will be a step in the right direction. Then, and only then, will an aggrieved motorist stand a fair chance of receiving the guarantees set forth in the Constitution. /MT

CHECK YOUR OWN FRONT END

HERE IS A METHOD by which you can check your own front-wheel alignment while you drive. First, you should have the front wheels checked by an expert and aligned if necessary. Not every new car is perfectly aligned, so it is a good idea to have your new car gone over before putting very many miles on it.

When you are satisfied that the front end is in perfect shape, drive the car at 45 to 50 miles per hour, guiding it onto the part of the road where it will steer itself, hands off. Make a mental note or draw a diagram on paper of the position of the steering wheel spokes. (They should be centered but if they are a little off one way or the other, it doesn't matter.)

From then on, any time you are in doubt you can recheck the alignment by repeating the above procedure. If the steering wheel has changed position the alignment has changed, and should be readjusted promptly. If the wheel is still the same as the diagram, the wheels are still

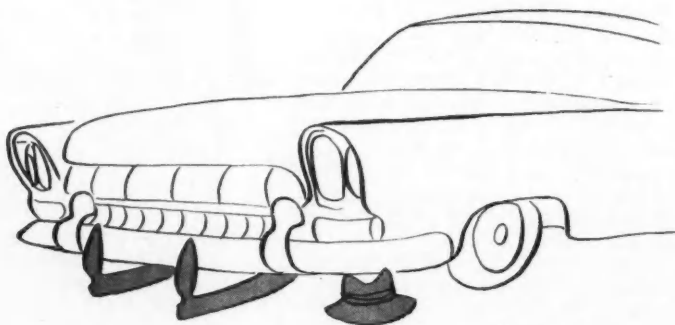
in line and you can bet on it. There is just one chance of a mistake; if the front tires are not inflated to within five pounds of each other, the car will tend to wander toward the soft tire.

Never drive a car that feels loose in the steering or front suspension. The part that gives the loose feeling could be a vital

factor in the control of the car. Any unusual sound that develops, like a rattle, thump or clunk, means that something is loose that wasn't before.

It only takes a few minutes and possibly a couple of dollars to have it inspected by an expert and made safe.

—Robert L. Marker



IS YOUR CAR RADIO NOISY?

SOME CRITICAL INSTALLATIONS of automobile radios may require complete shielding of the ignition system to fully eliminate noise. But there are many other reasons for radio noise besides the

ignition system, so check these major sources of interference, suggested by the engineers of Champion Spark Plug Co. before assuming that additional suppression is needed in secondary circuit.

IGNITION NOISE is usually a popping sound varying in frequency with engine speed. It disappears when the ignition switch is turned off. This interference can usually be confined to the engine compartment by bonding (or grounding) of the hood, steering column, etc., to prevent its radiation to the antenna or radio. (Hood grounding may be especially poor on cars two to three years old.) Many

cars use suppressors in the rotor, distributor center lead or in the cables; these should be in good condition.

GENERATOR NOISE is a high-pitched whine in the radio and varies with engine speed. It will persist, however, if ignition is cut off with the engine running at moderate speed. This can be corrected by the use of a by-pass capacitor between the armature terminal and ground. (Don't connect to field terminal!)

GENERATOR REGULATOR NOISE is an irregular, rasping sound traceable to arcing of contacts. It will not persist below

the charging cut-out point of the regulator and can be eliminated by a by-pass capacitor at the battery terminal.

FRONT WHEEL NOISE generally occurs only in dry weather and at speeds over 15 mph. The irregular popping or "rushing" sound usually disappears when brakes are lightly applied. Static collectors in the hubs or special graphite anti-static powder in the tires handle this problem.

GAS-GAUGE NOISE may be identified as a hissing or crackling which occurs when the car is bounced to disturb gaso-

line level. It can be suppressed by a condenser connected across the gauge resistance element to ground.

In all cases, while the antenna itself must not be grounded, the lead-in shield should not be broken and must be properly grounded at both the antenna and radio chassis. If noise disappears when the antenna is disconnected at the radio, it indicates that the antenna is picking up interference. If noise still persists, it is probably being transmitted to the radio via the power lines; this necessitates installation of a by-pass condenser from the "A" lead to ground.

HELP SAVE A LIFE!

Do you know what to do when an accident happens before your eyes?

YOU ARE STANDING on the corner waiting for the light to change. Suddenly there is a squealing of brakes. A head-on collision between two cars occurs right before your eyes. It is a terrible smashup. Are you prepared in this event to help save a life?

What could you do as a bystander who just happened to be at the scene? What would you do to help, while waiting for the highway patrolman and the doctor? Inasmuch as anyone may find himself at some time in this situation, it is important to know the answer to this life-or-death question.

What is the most important thing to do upon reaching the scene of an automobile accident? Probably the most essential—and certainly the most difficult—is to stay cool and keep your head. You'll

never know how hard this is until the emergency arises—until you have to fight down the gripping nausea or overpowering faintness that the sight of blood and suffering causes many people.



But if you can keep command of yourself, you will avoid doing the silly, needless, and even dangerous things that excitement and impulse can cause.

First, if you can reach it, **turn off the ignition key!** Then see to it that no one, whether injured person or bystander, lights a cigarette and throws down the match. You may thus prevent a simple wreck from turning into a flaming inferno or a rending explosion.

Next, flag down the first car that comes along, and ask its occupants to go for help. Then, and only then, are you ready to make your diagnosis of what you can do to help the injured victims. Here are some "DON'TS" and "DO'S" that are worth remembering when you are confronted with an emergency.

—Irv. Leiberman

IN CASE OF ACCIDENT . . .

1. **DON'T** let an injured person sit up or try to stand up, and don't try to move him except to prevent further injury. **DO** make him lie still till you know how badly he is hurt, and until you decide how you can best transport him without making him worse off than he already is.

2. **DON'T** let him become chilled. **DO** cover him up as warmly as possible.

3. **DON'T** overlook serious bleed-

ing. **DO** stop any bleeding by pressure over the bleeding area.

4. **DON'T** overlook arrested breathing—that is, complete cessation, not to be confused with shallow respiration. **DO** perform artificial respiration, even though you may not know how to do it expertly, till someone arrives who can do it better. **DON'T** give up till a doctor pronounces your patient dead.

5. **DON'T** decide that unconscious-

ness means drunkenness, just because you see a broken whisky bottle or smell alcohol on the victim's breath. **DO** look for some other cause of unconsciousness—head wound or bruise, or loss of blood.

6. **DON'T** try to treat a burn or scald. **DO** pull the injured person away from the source of his injury and protect the damaged area from further damage by carefully cutting or tearing away loose clothing.

Break-in or Break-up?

How should you drive your new car during its first 1000 miles? Here are some factory tips . . .

by William Carroll

NEXT TO GAS MILEAGE, the most hotly debated subject among new car owners is the best method of engine "break-in."

The economy fan says, "I'll run the first 2000 miles slow and easy—to wear the engine in gradually."

A motorist seeking long engine life claims, "There's only one way to break-in a car. Drive as if it were two years old."

Leadfoots are more emphatic. "To really make it go—run as fast as far as you can."

And the funny thing is there's good sense in each owner's approach to his new love—a 1958 automobile. As explained by Buick Staff Engineer Lloyd Muller, "Basic reason for the break-in period is because microscopic roughness of the machined surfaces of a new automobile engine produce a reduction in the area of contact. Such extremely high local pressures and friction may cut through lubricant films causing seizure and surface damage. When surfaces have run together at moderate loads for a period of time, the rough surface irregularities become burnished or polished and are hence capable of absorbing full loads without unduly high pressures and consequent lubricant failure."

Oil companies have a bird's-eye view of the break-in problem. Socony-Mobil Oil Co.'s highly respected fuel engineer, Ray McMahan, said, "You have certainly picked a controversial subject. So many methods are suggested for breaking in a new automobile that it seems almost impossible to separate good from bad. Changes in design, materials for engine construction, clearances, performance requirements, and oil economy dictate a short break-in period with very little, if any 'babying' of the engine."

Another approach to break-in is through use of mild abrasives. The Caterpillar Tractor Co. uses and recommends that metered amounts of Bon Ami be added to the intake air for rapid seating of piston rings. However, a prominent U.S. car manufacturer expressed opposition to use of abrasives for break-in because of pos-

sible harm to cam lobes and valve lifters. These very heavily loaded parts operate under boundary lubrication conditions, and are highly susceptible to scuffing and scratching influences. Before using an abrasive for engine break-in, you should consult the particular car manufacturer for his recommendation.

Discussions with factory engineering teams have brought us these up-to-date statements on the best methods of break-in in a new car:

BUICK: "Manufacturing methods used have eliminated the need for tedious low speed initial break-in," said Staff Engineer Lloyd Muller. "However, life of the engine, transmission and axles will be improved by exercise of care during this initial period. It is recommended that speed not exceed 50 mph for the first 300 miles, and that the rate of starting and stopping be moderate. Speed may then be increased above 50 gradually as mileage accumulates. During the first 1000 miles, driving long distances at any one speed, either slow or fast, should be avoided."

CADILLAC: "Although it is not necessary to follow a step-by-step procedure, several break-in recommendations are made on a precautionary basis. It is suggested that the new owner avoid driving at any one constant speed, either fast or slow, for the first 100 miles. Varying the speed causes more lubricant to enter between the cylinder wall and piston, where, due to close tolerances, it is desirable to keep both surfaces well lubricated. The Cadillac factory does not use any special 'break-in type' engine oil, though we do use a good grade of high detergent lightweight oil, without additives."

CHEVROLET: During the first 500 miles with your new car, Chevrolet Chief Engineer Harry F. Barr suggests, "Do not exceed 60 mph, drive long distances at constant speeds or make abrupt starts and stops. Use break-in oil for the first 1000 miles, then replace with oil of a num-

ber and type determined by temperatures at which the car will be operated. Drain and refill the rear axle after 1000 miles with SAE-90 Multi-Purpose gear lubricant. When delivered, each new Chevrolet crankcase is filled with SAE 10W heavy-duty oil containing an extreme pressure (EP) additive. These additives," Barr pointed out, "are used to prevent scuffing of mating parts."

CHRYSLER, DE SOTO, DODGE: See Plymouth.

EDSEL: See Mercury.

FORD: "Consistent low speeds aren't necessary to 'break-in' your new Ford. However, avoid fast starts and driving at steady speeds during the first 500 miles. Occasional short spurts to speeds faster than 60 mph are all right, provided, of course, that you observe state and local traffic regulations. This break-in procedure limits operation to speeds which will not generate enough heat to dangerously thin out the lubrication film. Factory fill break-in oil is designed to allow controlled wearing-in of engine parts at the loads and speeds recommended. The use of lubricants containing a high percentage of detergent additives during break-in defeats the above purpose."

LINCOLN: "Just drive your Lincoln right from the beginning as you would normally drive," says the factory. "The formal break-in period is not necessary because precision manufacturing methods have prepared the engine for normal driving. During the first 500 miles, though, it is a good idea not to drive at high speeds (above 60 mph) for extended periods, or at any one constant speed. Also, avoid continuous low-speed driving, idling the engine, and 'jackrabbit' starts. When delivered to you, the right grade and viscosity (weight) of oil is in the engine. After the first 1000 miles of driving, this should be drained and the oil filter element replaced. If you have to add oil dur-

ing the first 1000 miles, use nothing heavier than SAE 10 in winter or SAE 20 in summer."

MERCURY: Mercury's Chief Engineer, H. C. MacDonald told us: "Heavy-duty lubricating oils used in the engine for the 'initial break-in' are formulated to provide oxidation resistance, minimize foaming tendencies, be noncorrosive to engine bearings and parts, eliminate oil passage-way clogging, and not contribute to sticking of valves and piston rings. Following the first oil drain, use only engine oils classified as 'MS' or 'DG' by standards of the American Petroleum Institute. It is good policy not to drive at high speeds (above 60 mph) during the first 500 miles for extended periods of time. Avoid continuous low speed driving, and 'jackrabbit' starts."

OLDSMOBILE: Oldsmobile Experimental Engineer T. R. Tompkins advised, "There has been a substantial reduction in the 'break-in' time of a 1958 Oldsmobile as contrasted to the earlier products. Driving speeds should be limited to a maximum

speed exceed 50 mph. In the long run, care will pay off in many additional thousands of miles of trouble-free motor-ing pleasure."

PLYMOUTH: Arnold Steckling, Plymouth Chief Engineer says, "It is not necessary to 'baby' the Plymouth automobile—a certain amount of care in driving the first few hundred miles is necessary for continued top performance. The engine is manufactured by precision methods that once were thought impossible. Even in a brand new Plymouth no 'warm-up' period is necessary after starting the engine. However, fast accelerations should be avoided as much as possible. Fast initial acceleration merely wastes fuel and wears the engine. During the first 300 miles, and after it is thoroughly warmed up, it is actually good for the engine to 'give it the gun' for occasional brief spurts of speed, but not above 50 mph. Do not travel at consistently high speeds until after you have registered 500 miles on your speedometer. Speed may then be gradually increased as mileage accumulates. During the first 1000 miles, driving

member that driving at speeds up to 50, even for distances greater than the indicated 200-mile period, will not 'break-in' the car for sustained high speed driving. Before cruising for prolonged periods at speeds much in excess of 70 mph, or accelerating at full throttle, it is recommended that the car be accelerated gradually to the higher speeds and held there for short periods, alternating with similar short periods at about 60 mph, as frequently as possible during the last 100 miles of break-in."

RAMBLER: From Detroit, American Motors technical advisor, Carl Chakmakian, writes: "The manner in which you drive your car for its initial mileage has a pronounced effect on subsequent operation. Two basic principles, if followed, will assure proper break-in: (1) The engine should be 'worked' by intermittent running at reasonably high speed. However, too much speed can be harmful and must be avoided; and (2) The engine requires progressive break-in at various speeds or steps before it is safe to operate continuously at all speeds."

STUDEBAKER: See Packard.

If instructions to this point sound somewhat like saying, "Run both ways at once," it's only because it's true. Every factory has its own specific thoughts on the subject. With a new car, read the instruction book and follow it to the letter. For rebuilt engines or new car books with skimpy information, the following summary will keep you well out of trouble.

1. Prolonged low-speed, light-load operation (including excessive idling) and sustained high-speed, heavy-load operation should be avoided during initial mileage on the car.

2. For the first 300 to 500 miles, speeds of up to 50 mph are generally recommended with the understanding that prolonged driving at any one speed should be avoided and that the speed should be varied as much as possible.

3. After the initial 300 to 500 miles, maximum speed (stay legal) should be increased gradually while avoiding prolonged operation at any one speed until 1000 miles are reached.

4. After 1000 miles the car can be considered broken-in, but near wide-open throttle operation for long periods should be avoided for an additional 1000 miles.

5. Oil should be changed more frequently during the first 1000 miles than during later operation. It's best to change both filter and oil at the 500- and 1000-mile marks.

Briefly, the best advice seems to be not to "baby" the new car or treat it too gently during early life. Spend a few days doing nothing else but scientifically "working-in" the new engine. It'll pay dividends as long as you own the car. /MT



of 50 mph for the first 100 miles and 65 for the next 400 miles. When starting out with a cold engine, a great deal of wear can be avoided by driving at a moderate speed until the engine is warm. Until the oil circulates freely, there is greater chance of metal-to-metal surfaces scuffing against each other. A driver must give the oil a chance to do the job it was designed to do. Our engineers agree it is possible to drive a new Olds at high speed from the start, but this is not recommended. In other words, technical advancements have minimized importance of the 'break-in' period."

PACKARD: Packard engineers state: "The manner in which your new car is driven for the first 250 miles has much to do with the way it will operate at a later date. This applies to the brakes, gears and rear axle, as well as to the engine and other units. During this period it is not recommended to open the throttle wide for acceleration or hill climbing. Nor should

at any one speed for extended periods, (either slow or fast), should be avoided. Varying the break-in speed of the car and including some high speed operation, within the limits imposed by law, promote longer life of parts and better economy of oil and gasoline."

PONTIAC: "When starting out," says Pontiac, "a new car should be driven moderately for 10 to 15 minutes to allow the engine, transmission, and rear axle to warm up. The engine is not to be raced at any time during the break-in. After this initial warm-up, speeds may be increased. In the first 200 miles do not exceed 50 mph. For the second 200 miles, do not exceed 60 mph. For the third 200 miles, do not exceed 70 mph. With the car warmed up, speed should be increased gradually to the maximum in the above schedule, held there for a short distance, then gradually decreased to a slower speed for a short distance. All accelerations should be made at part throttle. Re-

Questions from readers

Q. GROWLING TRANSMISSION. I have a growling noise in the transmission of my car. It seems to be constant in first, second, and high. Would this indicate bad gears? Bruce Chance, Chicago, Ill.

A. No. From your description we would suspect bad transmission bearings rather than gears. Naturally the remedy is inspection and while the transmission is out you may as well replace the clutch throwout bearing. They often go bad, and the replacement necessitates removal of the gearbox. You may save another transmission removal later by replacing this bearing now.

Q. DETERGENT OILS. You recently wrote that we should avoid the use of detergent oils in classics. I am sure that this advice is excellent in most engines because the detergent could wash out slime causing a decrease in oil pressure, but wouldn't detergent oil be excellent for any classic with a completely overhauled engine? R. J. McNamee, Philadelphia, Pa.

A. No, stay away from detergent oils in any classic. They do not have sufficient viscosity to properly lubricate the older engines. The tolerances on most classics are much greater than the tolerances on modern cars and detergent oils are especially designed for close tolerances. Viscosity ratings have changed over the years and the 30-weight oil of today is the equivalent of 40- or 50-weight oil of the classic era. Most local enthusiasts purchase non-detergent 40- and 50-weight oil and dump it into various classics. We have never heard of mechanical breakdown directly attributable to this practice.

Q. IMPROVING ROADABILITY. How can I improve the roadability of my '56 Plymouth Savoy? Would helper springs do the trick? Fred R. Hysler, Erie, Pa.

A. If by helper springs you mean the conventional setup, they will do no good. Their use is limited to overloaded conditions. We would prefer export springs and shocks, or at least heavy-duty shocks. They can be purchased through your local Plymouth dealer.

Q. WIRES CROSSED? I give up. I have been trying to re-wire the spark plug harnesses on my '47 Lincoln Continental. How in the world do you string the wires, especially where some leads cross over from one harness to another? George Scott, Culver City, Calif.

A. You don't. The Lincoln Co. used special jigs to wire the harnesses when the

on engines, performance;
new and used cars,
classics and customs...

cars were in production. Without factory equipment, it is almost impossible to string all the wires through the harnesses. You can string most of the wires and tape the remaining wires to the outside of the harness. This is the remedy used by most enthusiasts.

When parts were being manufactured for this car, the Lincoln Co. used to make replacement units which consisted of new wires, distributor caps and looms. They were sold on an exchange basis and a mechanic had only to remove a few nuts to install the new assemblies. We know from sad experience that these replacement units are now almost impossible to obtain.

Q. BACKFIRE. Every time I let up on the throttle my car backfires. Does this indicate a rich or lean mixture? Thomas Mann, Huntsville, Ala.

A. It would indicate a lean mixture. To correct it, be sure to check for air leaks around carburetor manifold seat and tighten intake manifold before adjusting the carburetor.

Q. DIFFICULT DOORS. The doors on my '55 Ford won't open without beating, pushing and yanking. I have oiled the locks but nothing seems to work. What causes this, and how can it be corrected? Dwayne Sevaysee, Kent, Ohio.

A. The striker plates are worn. The only corrective measure we know of is new striker plates. This is a common Ford complaint, so you have plenty of company.

Q. OVERHEATING. I have overheating problems with an eight-cylinder Packard. The thermostats are new, the radiator is rodded, the water pump is good and valve and ignition timing are on the button. Have you any suggestions? Philip Walker, Greenwich, Conn.

A. Make sure the fan belt is not slipping. Double check the hoses to make sure they do not collapse under pressure. You may have rodded the radiator, but have you cleaned accumulations of rust from the engine block? A good radiator shop can do this with proper equipment. For best results remove the freeze plugs and clean around these areas. Goop will frequently build up near a freeze plug.

Some mechanics have achieved remarkable success by using modern pressure caps. Water under pressure does not boil at the same temperature as water not under pressure. If your case is one of slight overheating, a pressure cap may be all that is required.

Q. NO CHARGE. The generator and water pump on my Lincoln are all in one unit. The generator does not charge. New brushes have not helped. Can these generators be rewound? Virgil Bowman, St. Louis, Mo.

A. Remove the generator cover and while the engine is idling, apply sandpaper to the armature commutator. Do not use crocus cloth. Next, take a used hacksaw blade and break it. Use the sharp edge to undercut the mica between the commutator grooves. Make sure your new brushes will move freely in the brush holders. Check the voltage control box generally located on top of the generator. Replacements are easy to find.

Most important, many classics, and the Lincoln is one in particular, incorporate a small fuse in the generator circuit. These fuses frequently blow out, and nothing more is required than the replacement of the fuse. If all the foregoing fail to remedy the difficulty, remove the generator and any good electrical shop can rewind the field coils as well as the armature.

Q. RAPID WEAR. What causes rapid gap wear in spark plugs? Nathan Rose, Calumet City, Ill.

A. Two things—improper fuel mixture and improper plug heat range. Go to a cooler plug and adjust carburetor for proper fuel/air ratio.

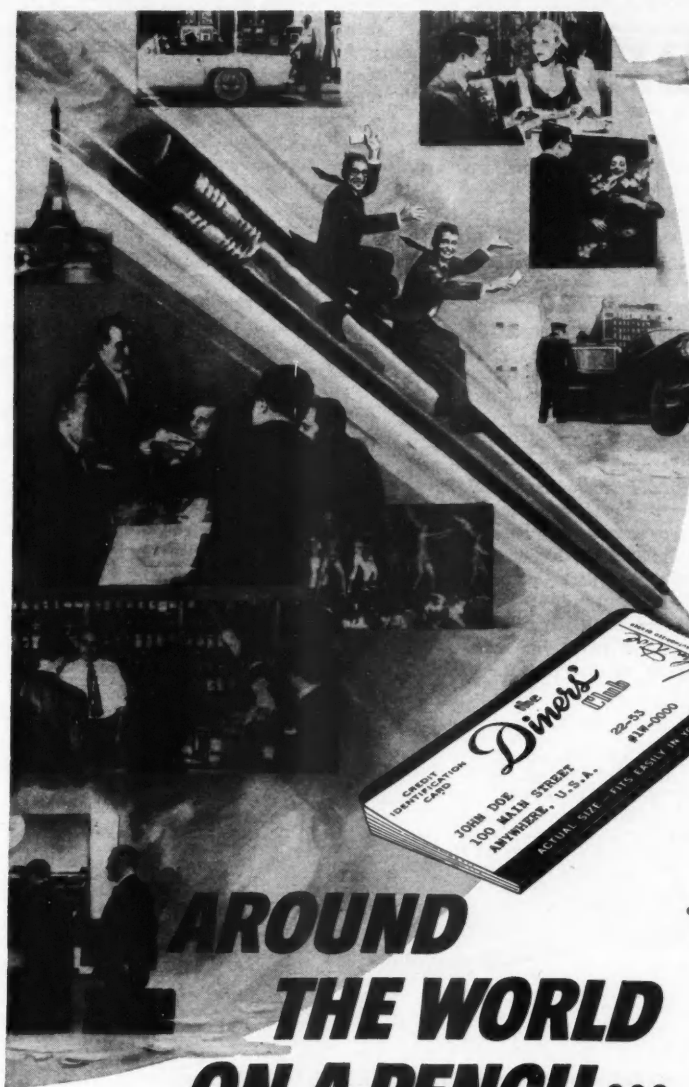
Q. WON'T COME OFF. My car has aluminum heads which have resisted all efforts to remove. How can I get them off without ruining them? Mark Stroud, Smithfield, N.C.

A. Soak studs with plenty of penetrating oil overnight, then put plugs in and turn engine over with starter motor. If this won't build up enough compression to lift the heads, have someone push you with your car in high gear. Don't attempt to start the engine! This will probably remove the heads in several sections.

Q. MYSTERY. I set the valves on my Cadillac to proper clearances. When I recheck, some clearances are greater and some are smaller. The engine doesn't run worth a darn. What could cause valve clearances to change when the adjustment nuts are tight and when there is no change in engine temperature? Louis Bix, Wichita, Kan.

A. We solved this problem five or six years ago for another enthusiast. Your camshaft is undoubtedly bent. Replace it with a new one or take it to a machine shop and have it straightened.

It is impossible to answer any letters personally; we will answer the most interesting and most frequently asked questions in this column.



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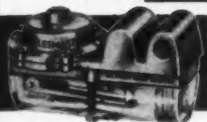
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Ferrari

continued from page 23

builder in person. Buyers of Ferraris are among the most famous people in politics, art, industry.

But in the last three years the sweetness of recognition has been mixed with the bitterness of sorrow. Not only has he lost his only son, but three of his finest drivers: Ascari, son of the other great driver; Castellotti, the young Italian star; and De Portago, who was killed in the last Mille Miglia, which brought many repercussions to Ferrari. In addition, test driver Sighinolfi and engineer Frascchetti were both killed while testing new cars.

For a man whose past has been so full, Ferrari hesitates when asked, "What do you believe to be your greatest achievement?" There is no spoken answer, but an unfathomable look in his eyes seems to imply: "Who can say—? Perhaps the victory still to be won?"

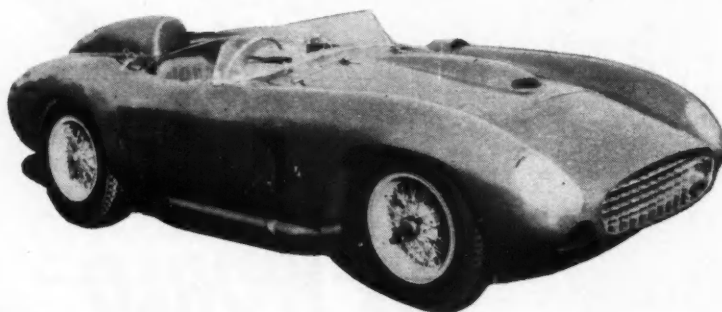
Such is the man Enzo Ferrari, the Magician of Maranello. But what of the other half of the legend—the fabulous

then precision machined and then lovingly polished to ultimate accuracy. When one realizes that connecting rods are completely machined, that the V-12 crankshaft is ground from one large piece of bar stock, and that it has two oil holes for every rod and journal and each hole is countersunk with a special tool, it's no surprise that a Ferrari costs over \$10,000. In fact, one wonders how it costs so little.

Some years ago the hardware and the light alloy castings were made outside, but when it was found that some defective parts had ruined a good chance in a race, a new section was added to the shop for hand-made castings.

The chassis are built at Modena, then sent to Maranello where each is inspected on a jig, and then placed on the line for assembly. When the chassis is completely assembled—and mounted with a mannequin engine—it is sent to the coachbuilder. Only the finest carrozzerie may have the honor of putting a body on a Ferrari.

After the body has been built, the car is returned for the installation of its own engine, gearbox and differential, all of which have been thoroughly tested individually and jointly in the meantime. Then



FERRARI 500-TRC sports car with 122-cubic-inch "four" can do about 160 mph.

factory that builds the magician's magnificent machines?

The Ferrari works are humbly housed, as far as automotive factories go today. However, once one is inside and views the large and busy drafting room where scores of designers and draftsmen are working on the square miles of blueprints necessary to build a new Ferrari, the impression is nearly as overwhelming as the understandably proud owner had predicted.

One section of the L-shaped building contains row after row of the most modern machines, some of them specially built by Ferrari to do a specific job. Here, 300 craftsmen build Ferraris at the rate of three to five cars per week.

This limited output reflects the emphasis on custom quality in every stage of construction. Certain components—wheels, electric equipment and carburetors come from other suppliers, but all elements of the engine and chassis are made in Ferrari's own shops. All working parts are roughed,

the complete car is test-driven for 200-300 miles before it is turned over to its purchaser. Every car is pre-checked in this manner by a test engineer on the Autodrome circuit in Modena and on the neighboring mountain roads. When the machine receives the final seal of approval, it is ready to uphold the honored Ferrari tradition of unsurpassed craftsmanship.

The racing machines (and the others too, since every Ferrari is meant to be a racing car) are designed and built with the greatest emphasis on quality to achieve speed. Signor Ferrari has to make many compromises to keep the firm going, but none regarding quality. Only the best goes into a Ferrari—and this includes design.

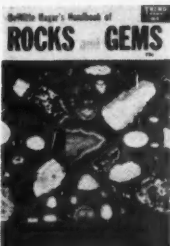
The famous V-12 engine that has been made in over 20 different sizes and horsepower ratings is in itself a marvel. All major castings are of silumin, and the wet sleeves are screwed into the heads to avoid use of the head gasket that will burn some-

continued on page 76

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Motor sports

continued from page 62

Formula II single-seaters and Mountain Championship sports cars. Maserati, who won the Mountain event this year, have not so far built Formula III cars but may be encouraged to do so, and there is a story going around that Ferrari is thinking of converting his Formula II single-seater into a sports car for mountain climbing.

NASSAU RACE

Driving a borrowed Ferrari, Britain's Stirling Moss became the first two-time winner of the Nassau Trophy sports car race at an average speed of 101.603 mph for the 250-mile event.

One day before, on December 7, he had loaned his Aston-Martin to Ruth Levy, Los Angeles, for the 25-mile ladies' event. Miss Levy, who has gained considerable reputation as a winning driver in sports car competition, misjudged a turn and overturned at 120 mph. The car suffered extensive damage but Miss Levy's injuries were slight.

Carroll Shelby, U.S. sports car champion from Dallas, was second to Moss—one minute, 5.4 seconds behind in a 4.5 Maserati. Phil Hill of Santa Monica, in a 3.5 Ferrari, was third.

Jacques Bonnier of Belgium was fourth in a 3.5 Ferrari and Richie Ginther of Santa Monica, fifth in a 3.5 Maserati.

Moss's victory was his second of the day. Earlier, he made his Ferrari debut—he had never competed in a Ferrari before—by winning the 100-mile Nassau Memorial.

PARAMOUNT RACE TRAGEDY

That same weekend, tragedy struck a West Coast sports car road race at the Paramount Ranch Course near Los Angeles, when two drivers lost their lives and a third was critically hurt.

On Saturday, during a practice session, Hugh Woods, 51-year-old Borrego Springs, Calif., market operator, smashed his Corvette into a guard rail at Turn 1. He lost a leg and suffered fractures of both arms and the remaining leg.

Later, during a heat race, George Sherred III, 23, of Palo Alto, Calif., was killed instantly when he drove his Jaguar into the same guard rail.

During the final lap of the one-hour feature race for over-1500cc modified cars on Sunday, James R. Firestone, 39, an electronics engineer from Monterey Park, Calif., died when he was thrown from his Frazer-Nash roadster. He lost control in a turn and the car rolled over on a downhill section of the course and through an underpass.

Winner of the event was Dan Gurney, youthful Riverside, Calif., driver who won easily in a 4.9 Ferrari. He was trailed by Bob Oker in an Aston-Martin.

The under-1500cc modified car event was the usual shoo-in for Ken Miles, Britisher currently residing in Hollywood, whose skill with a Porsche Spyder has become almost legendary. Jean Pierre Kunstle, Carmel, Calif., Porsche dealer, trailed in another Spyder for second spot.

/MT

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Ferrari

continued from page 74

times. There is a single overhead camshaft in each cylinder bank driven by a roller chain, and driving the valves through light rockers. Generator and water pump are also gear-driven to avoid the belt. The crankshaft, fully machined and counter-weighted, has seven bearings and six rod journals over which the rods are coupled side-by-side, resulting in the blocks being offset, the left one slightly forward. There is one intake and one exhaust valve in each cylinder, retained by hairpin-type springs. Carburetion is by three double-throat Webbers; ignition by twin distributors, each feeding six cylinders.

The basic engine layout is the same in the more powerful racing types, whose special features are twin overhead camshafts in each bank of cylinders (also driven by roller chain), and improved carburetion with either six double-throat Solexes or three quadruple Webbers, placing a carburetor throat directly above each intake pipe. There is also the twin ignition system with two distributors and four coils, feeding two plugs per cylinder. Dry sump oiling system is also standard with two pumps.

The four-cylinder racing engines have two valves in each cylinder and of course double overhead camshaft as well as all the other refinements. An idea of the extraordinary results obtained from this design is given by the fact that the old Formula 1 engine of 270 cubic inches weighed only 429 pounds, yet had an output of over 400 hp when last used.

All the cars have a tubular frame with various types of suspension. The front usually has wishbones and coil or leaf spring; at the rear there is a de Dion axle in the special racing job and standard differential in the touring chassis. Houdaille shock absorbers are always used. The clutches are single discs on the light sports machines and multiple in the teams sports and racing cars; in the latter cars gearboxes are at the rear because of the advantages of the de Dion layout.

Sometimes the same basic model of sports chassis is equipped with several types of body—open and closed, but always two-seater—and several engines with different steps of tuning to suit the needs of the customer. In the same manner the 410 SuperAmerica engine was put in the MM-375 sports chassis to be used by the team, but was withdrawn when it was found that the power was excessive both for the chassis and the wishes of the drivers.

Such is the story of Ferrari—a never-ending search for perfection in design and performance, led by a man who has proved to the world that an ideal is worth fighting for.

/MT

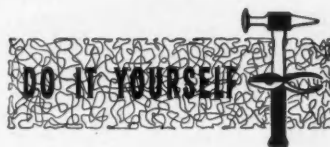


Photo Story
by Russ Kelly

1. This seemingly complex kit was assembled by a woman with no technical background. Prior to starting, the kit contents were carefully laid out, identified, and checked against the parts list.

A NEAT HEATHKIT

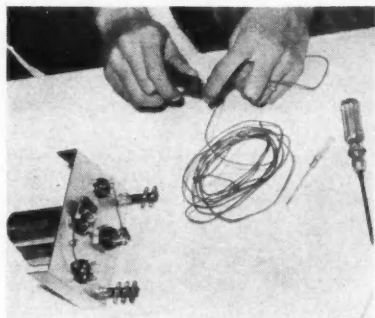
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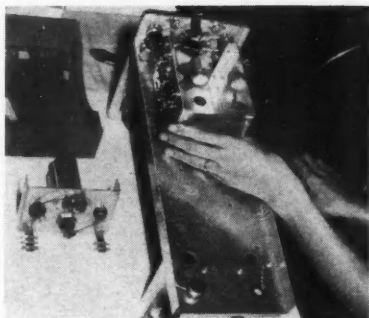
and to the engine enthusiast who takes great pleasure in working on his own car.

The kit comes complete with all necessary materials and components. An easy-to-read instruction book with large diagrams makes assembly easy, even for a housewife with no previous experience. Few tools are required—only a soldering iron, pliers, wire cutters, a couple of screwdrivers.

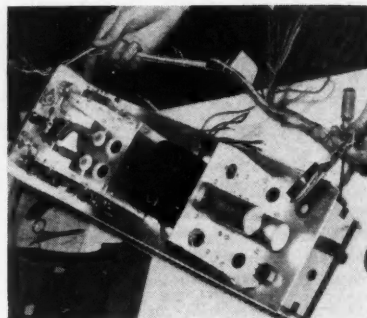
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2. First steps are the wiring of circuits on the chassis assemblies. Unit shown here is the power supply sub-chassis. Wire comes with kit.



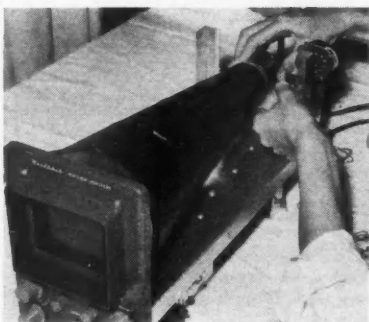
3. Here completed and assembled, sub-chassis comprised of sweep and triggering circuits is fitted to main chassis. Chassis is inverted.



4. Wiring loom with "break-outs" greatly simplifies wiring. Here the power transformer and power supply sub-chassis have been installed.



5. Tubes are installed after wiring is completed. Unit is extremely rugged and compact, should be entirely suitable for use in production work.



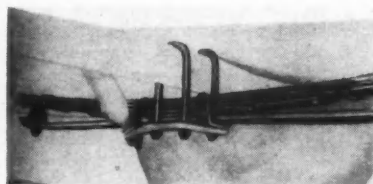
6. Last step in assembly is the mounting of the CR tube. Rubber-mounted to the main chassis, it is supported in felt inside the metal shield.



7. Completed unit has precision-made factory look. Time involved in assembly was about 10 hours; job could be done by professional in five.

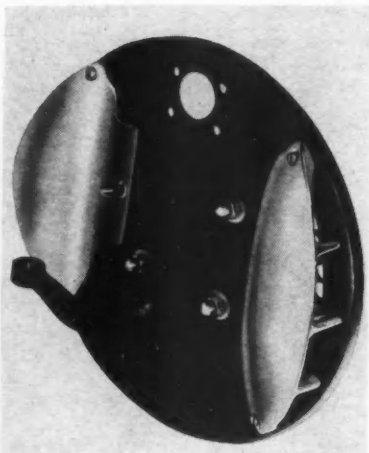
TRENDS in New Products

TWO PROBLEMS common to very flexible rear leaf springs—loss of traction due to wrap-up and wheel hop in lightly-loaded cars, and excessive bottoming when carrying heavy loads—can be alleviated with helper springs. Mono-Flex Dual-Torque Helper



Springs can be installed quickly without drilling and will greatly aid in solving these difficult spring problems. The price is \$19.75 (\$21.75 west of Rockies). Write to Mono-Flex Spring Division, Davis Auto Equipment Co., Reading 5, Pa.

LONG KNOWN for their fine crash helmets (MOTOR TREND test drivers use them), Bell Auto Parts is now marketing a new safety device which will interest owners of Fords and Mercurys of '39 to '48 vintage. Air-scoops which attach to the backing plates



of front brakes on these cars will aid in reducing fade and should add to the life of the brakes. They are available for \$9 per pair from Bell Auto Parts, Inc., 3633 E. Gage Ave., Bell, Calif.

BOOTING a sports car along in an official event or just for the fun of it can be an even more pleasurable experience if you are dressed for the occasion. Ideal in the way of footwear is a new moccasin-type chukka boot which is designed for the ultimate in



driving comfort. The boot is hand finished to an antique burnt ivory and has hand-forged buckles. Sizes are 6 to 12 and widths A to E. They are available from Fellman, Ltd., 49 W. 43rd St., New York 36. The price is \$18.95.

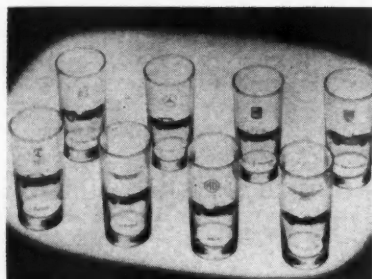
MANY DRIVERS have neglected to carry a fire extinguisher in their cars because it is bulky and unsightly. The Super Fireman extinguisher eliminates these objections because it is small, compact and handsome. It is charged with eight ounces



of chlorobromomethane (CBM), which is now used extensively in aircraft fire-extinguishing systems because of its efficiency as a smothering agent. The unit may be used on all types of blazes, including gasoline, oil, alcohol and electrical fires. The container is pressurized at 120 pounds and will spray up to 17 feet. The finish is

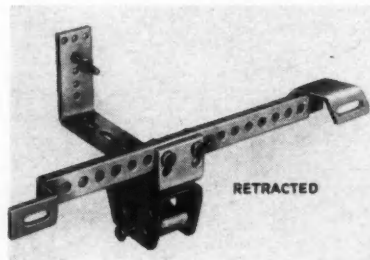
chrome and the unit is furnished complete with a mounting bracket. Price is \$7.95, and it is available from Interstate Precision Products Corp., 524 E. Vermont, Anaheim, Calif.

NEWEST THING in glassware for sports car fans is being introduced by Libbey Glass, division of Owens-Illinois Glass Co. The new Sports Car Set consists of eight, heavy-base, 12½-ounce ceramic-decorated glasses. Each glass is decorated with a different car which is authentically detailed and in permanent color. The sports cars in each

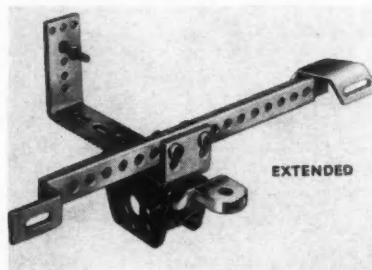


assorted set include Ferrari, Austin-Healey, Jaguar, Triumph, Mercedes, Simca and Porsche. The retail price is about \$3.

A FULLY RETRACTABLE trailer hitch designed for passenger cars pulling boats and utility trailers up to 3000 pounds is now available. The new hitch, including the towbar, folds completely out of sight when not in use. In retracting the hitch, a locking



pin snaps out, the towbar is swung down and forward and the pin is replaced. To extend the towbar, the procedure is reversed. The



hitch will fit more than 500 makes of passenger cars and station wagons. Complete details can be obtained from the Auto-Marine Division, Atwood Vacuum Machine Co., Rockford, Ill.

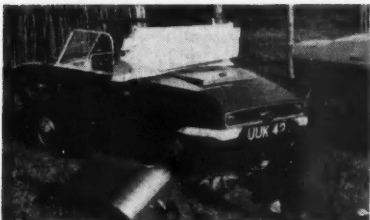
DRIVING AROUND

continued from page 59

you from going from first right through to fourth unless you studiously avoid it. (I understand some development work is being done on this to arrive at a more satisfactory gearshift.)

Of all the cars at Goodwood which I'd driven previously or during this day's outing, the most interesting to drive hard was the Lotus VII. Though this car will never be made in large quantities since it's designed for apt owners who want to build their own cars, it's a fairly cheap way for embryo race drivers to get into sports car competition. The 1098cc four-cylinder engine is the same as that used in the hot Lotus XI, so you've got the steam as you need it through the positive four-speed gearbox. It has no particular faults on a circuit, a driver being able to slide or drift it at will. On the other hand, it has a stiff ride and you get wind-whipped from the inadequate windshield—so don't expect to employ it just for street use unless you're a rugged individualist.

The last ride was in a Meadows Frisky-sport, a two-cylinder 325cc runabout that



is touted as a "sports car." Surprisingly, it handles beautifully, a mild shock coming to me when I saw a slow corner coming up and the designer riding with me insisted on my keeping my right foot down. I'm glad I did, for we went into the corner hard, went through in a gentle drift, and therefore still had power to keep out of the way of the bigger boys.

Upshifts and downshifts in the Meadows are easy because it has a motorcycle-type transmission with a lever you press forward then return to neutral position to go up through the gears. You pull backward from neutral then return to neutral to go down through the gears. You might get confused for a bit remembering what gear you're in, but the sound of the engine will most generally tell you.

The day at Goodwood over, we climaxed our stay in Britain with a quick run down through winding roads (it seems like that's all they have in Britain!) to Beaulieu at the invitation of Lord Montagu to visit his Motor Museum. Along with such interesting cars as a Fiat town car and a Stevens-Duryea, he had the most fantastic collection of motorcycles that I have ever seen. Had I been a motorcycle enthusiast I could have spent days there. As it was, our tight schedule called for a crossing of the Channel the next day. And that story comes next month.

/MT

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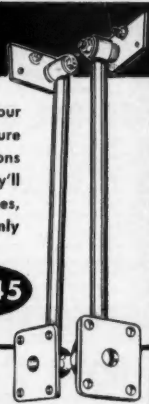
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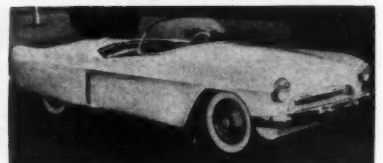
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SELL

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'31 CADILLAC V-12 phaeton. Engine very good; body sound & complete; uph. part new, part orig. Driven regularly. Sell for cash only; make offer. John Michael Thatcher, 213 W. Brow Oval, Lookout Mountain, Tenn.
'29 CHEVROLET 4-dr. sed. New paint, good tires & top. Engine in A-1 cond.; 32,000 orig. mi. \$350 or reasonable offer. Info on request. Donald V. Evans, Box 37, Markesan, Wis.
'28 CHRYSLER 62 cpe. with rumbleseat, hydraulic brakes. Very good cond. \$275. Pix on request. Bonnie Rose Bakery, 406 Lockport St., Plainfield, Ill.
'26 CHEVROLET 4-cyl. touring. Very solid & restorable; everything orig., incl. manual & title. Needs paint, top & uph. Stored in Burlingame, Calif. Best offer over \$100. John Worsley, 1953 Abbe St., San Diego 11, Calif.
COBRA Fiberglass rdstr., with Olds engine, Hydra-Matic. Power steering & brakes, radio. Perfect cond.,



6000 mi.; 1st licensed Jan. '56. Best offer over \$2400. Wallace Hanson, 3239 W. 111th St., Inglewood 2, Calif. Phone OREGON 8-9400.
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CORD 812 Westchester. Complete engine, radiator, starter o/haul. Good transmission & U-joints. Good chrome; exc. orig. uph. Mechanical shift—otherwise orig. \$795 or best offer. W. S. Hook, 1416 Page St., Alameda, Calif.
'41 LINCOLN CONTINENTAL conv., with '50 Ford V8 engine. Body & interior in fair cond. a restorer's prize. Good transportation. \$500. W. E. Woodyear IV, Harwood P.O., A.A. Co., Md.
'25 VELIE 6 4-dr. brougham with fitted trunk. Used '25 to '32, '39 to '41. Orig. equip't intact; stored off tires. Owner's death requires sale. Make offer. Mrs. L. S. Kennedy, 6133 the Paseo, Kansas City 10, Mo.
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'56 AUSTIN-HEALEY 4-cyl. engine, with transmission, electric o.d., radiator, etc. Used 1700 mi., now collecting dust. \$500. Bill Everly, 1447 Hill Dr., Los Angeles 41. Phone CLinton 5-8445.

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'22 ROLLS-ROYCE town car, with Hooper body. Completely restored; new tires, paint, uph. \$2000. The Carriage Cavalcade, Box 178, Silver Springs, Fla.

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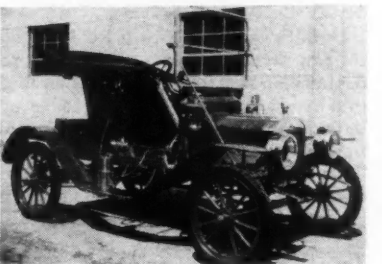
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'48 LINCOLN CONTINENTAL V-12 cpe. Black lacquer, with w's. Power windows, power aerial, o.d., r & h. Entire car in orig. & perf. cond. \$3000. Kent R. Clark, 3210 45th St., Lubbock, Tex.

'36 GRAHAM 4-dr. sed. in good cond. '53 Mercury engine, '50 Ford o.d. transmission. Write for pix & add'l info. M. E. Augustine, 1354 Central Dr., Mobile, Ala.

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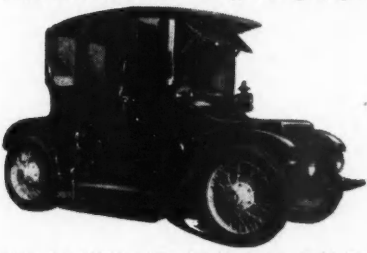
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'37 GRAHAM 116 supercharged 4-dr. sed. '57 Arkansas license, \$400—less than amount spent in restoration. Wright H. Hatcher, Miltoria Farms, Walnut Ridge, Ark.

'15 RAUSCH & LANG dual-control coach. Orig. finish; mint cond. Edison battery, 2 chargers, spare



parts. 1st \$2000 takes. Earl D. Potter, 8811 W. 102nd St., Rt. 4, Oak Lawn, Ill. Phone GArden 2-3552.

'36 PACKARD Large 8 Series 1401 conv. cpe, \$500 engine May '55; new top, exc. tires, good paint (green). In daily use. Best offer. Richard Collins, 1505 1/2 Fernando Dr., Tallahassee, Fla.

'13 FORD rdstr. New paint, new tires, Body & engine in exc. cond.; runs good. Needs new uph. Asking \$2200. Complete info available. Mrs. Jerome McKinney, 828 W. Gandy, Denison, Tex.

'36 AUBURN conv. cabriolet with rumble seat. Yellow enamel, red trim & uph.; completely rechromed. New Lycoming Big 8 engine, clutch, brakes, wire wheels. Best offer. James L. Larson, 5001 Holton Ave., Fort Wayne, Ind.

'34 CHRYSLER Airflow CU. Red & black Naugahyde interior; body good but needs paint. Approx. 20,000 mi. on present engine; fair tires. Best offer. Donald B. Woodard, 1743 Louisiana St., Lawrence, Kan.

'39 BUGATTI Type 57-C 4-place drophead by Graber. Immac.; 16,000 total mi. Coral box. \$3600. E. E. Gilmour, 11 Monroe Rd., Wellesley Hills, Mass.

HYDROPLANE—225 cu. in. Culver-built engine (Ford V8) with only 3 running hours. '48 Lauterbach hull. May be seen at Hyde Boats, Scotia, N.Y. \$650. E. E. Gilmour, 11 Monroe Rd., Wellesley Hills, Mass.

'52 JAGUAR Mark VII 4-dr. sed. Good cond., new tires, clean inside & out. In use daily. \$1075. E. W. Skidmore, 203 Alston Bldg., Tuscaloosa, Ala.

CORD 810 conv. phaeton. 1100 mi. on rebuilt supercharged engine. Stock except bumpers. Spare engine, chassis, running gear included. No reasonable offer refused. R. J. Garcia, 1347 Texas, Grand Junction, Colo. Phone CHape 2-2134.

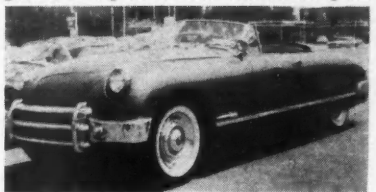
'39 FORD deluxe 4-dr. phaeton. Everything like new, except uph.; absolutely no rust. Over \$840 invested, excluding labor. Drive anywhere. \$650. Capt. David M. Holdsworth, WRMF, WRAMA, Robins AFB, Ga.

'37 CORD 812 Sportsman conv. New factory-rebuilt engine & transmission. Completely restored to orig.

cond. at cost of \$4000. Prize winner every time. \$2100. Norman Proehl, 335 N. Freedom St., Ravenna, Ohio.

'37 CORD Westchester sed. New paint, uph. Factory-rebuilt engine & transmission; new Bendix universals; extra block. Write for details. Reid Vann, Georgia Tech, Box 995, Atlanta 13, Ga. Phone PL 8-4282.

'51 MUNTZ JET, with '53 full-race Cadillac engine. Won trophies at recent Concours d'Elegance.



\$1500. Nino Dompe, 234 N. Cordova, Burbank, Calif. Phone THornwall 8-0100.

'51 BUICK "Limited" 8-90 sed. Body painted in good cond., but not completely restored. Mech. exc.; driven occasionally. Make offer. Donald Dunk, R.R. 5, Lafayette, Ind.

'35 LINCOLN K V-12 5-pass. sed. in sound, restorable cond. Wire wheels, hardwood paneled dash, sidemounts. Free-wheeling; vacuum-boosted brakes. 28,000 orig. mi. \$450. David G. Kyle, 808 Cheltenham Rd., Santa Barbara, Calif. Phone WO 2-1852.

'32 CORD L-29 spt. sed. in the very best of cond.; 29,000 actual mi. Non-restored; genuine. \$1495. J. Messick, 1437 W. Euclid, Stockton 4, Calif.

'33 RUXTON front-drive. Rebuilt 8-cyl. Continental engine. Long & low; near-perfect. New tires, extra parts. \$800 or best offer. A. R. Sandlin, 6731 Home City Ave., Cincinnati 33, Ohio. Phone WI 1-2719.

1900 DE DION Bouton. Vis-à-vis body. Restored wonderfully; a real prize-winner. C. S. Amsley, St. Thomas, Pa. Phone EM 9-2151.

'09 JACKSON touring. A beautiful brass car, restored to perfection; trophy winner. C. S. Amsley, St. Thomas, Pa. Phone EM 9-2151.

'23 MOON touring. Hand-rubbed lacquer finish. A rare roadworthy car; can be driven anywhere. C. S. Amsley, St. Thomas, Pa. Phone EM 9-2151.

'16 METZ raceabout. Partially restored. Will sell for investment—\$325. C. S. Amsley, St. Thomas, Pa. Phone EM 9-2151.

'31 FORD cpe. Good solid car, with new top, good tires. Runs good. Needs paint & uph. Sacrifice for \$85. Dean Donelson, Greterman Apts., Central City, Neb.

WIRE WHEELS—set of 2 for 19?? Hayes. 22-in. screw in hubcaps; no rims. Good shape. Make offer. M. Hughes, 38 Harvard Ave., Conimicut, R.I.

SELL OR SWAP

'31 PIERCE-ARROW Model 43 4-dr. sed. Perf. cond. except lacquer, which is fair. Perf. tires; terrific acceleration. \$575 or trade for Packard 12. Richard H. Timberlake Jr., 667 Pinewoods Avenue Rd., Troy, N.Y.

'40 LA SALLE V8 clb. cpe., with all equipment. Good body & engine; ready to go. Sharp—can be made sharper. Sell for \$300; might trade. Richard Preston, R.D. #1, Camden, N.Y.

BURKAW portable electric recorder, phonograph & public address system combination in simulated leather carrying case. Exc. cond. Cost \$139.50—will swap for classic car literature worth same amount or sell outright for \$65, prepaid & insured. A. Ward Shanen, 2444 S. Orkney St., Philadelphia 48, Pa.

SWAP

'41 CADILLAC conv. sed. in beautiful cond. Special uph. & carpeting, radio, dual spotlights, w.w's. A very fast-moving automobile. Trade for phaeton or Jaguar rdstr. Bill Hammer, 159 16th Ave., San Mateo, Calif. Phone FI 5-0967.

WANTED

FOR '40-'41 LINCOLN CONTINENTAL—1 rt. fender skirt. Will pay cash or have new left skirt or other items to trade. Joe McClelland, 704 W. 111th St., Los Angeles 44, Phone PLeasure 4-2265.

DAMAGED OR NON-REPAIRABLE '57 or older Cadillacs & Rolls-Royces. K. H. Reissner, 321 W. 7th St., Hastings, Minn.

'43 PACKARD V-12 hubcaps, 2 '39 Packard V-12 hood medallions. Warren Hendricks Sr., 5th & Oak Sts., Perisla, Pa.

PACKARDS—Super 8 & 12, 1931 thru '37 conv. Victorias, phaetons & touring cars in exc. cond. Please send pix & complete description. Richard C. Paine Jr., Box A, Seal Harbor, Me.

MOTOR ANNUALS—1915 thru '36, any cond. Automobile trade journals. Orig. catalogs & folders on Auburn, Cord, Cadillac, Duesenberg, Marmont, Stutz, etc., or any classics. Name your price for such material in mint cond. Sheldon J. Lewis, 61-33 213th St., Bayside, L.I., N.Y.

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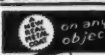
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JERRY UNSER STOCKER CHAMP

Winning final of season at Riverside International Motor Raceway cinched USAC Stock Car Championship for Jerry Unser of Long Beach, Calif. Driving a '57 Ford, Unser averaged 79.9 mph for the 250 miles. Billy Garrett, '56 Mercury, was second; Sam Hanks, '57 Mercury, third. Race was finale for Hanks, '57 Indy winner, who is retiring from competition.

BRYAN HAS NEW RIDE

Jimmy Bryan has stepped out of Monza-winning Dean Van Lines Special to take new seat in George Salih's Belond Exhaust Special driven to win in last Indianapolis 500 by Sam Hanks. If mount performs as well as last year, Bryan may repeat as National Champion.

NEW TIRE . . . NEW TEST TRACK

Firestone will shortly introduce double-chambered tire called Supreme Safety Airlock. Tire is slated for national distribution in six to eight months. Double-chambered-type tire with independently-inflated inner tire was first introduced by Goodyear in mid-'56. Firestone also recently inaugurated a new test track in southwest Texas said to be the world's largest—7.7 miles.

RALLY CHAMP NAMED

Ruprecht M. Hopfen, West Germany, is 1957 winner of European Rally Championship. Major overall or class wins were in Adriatique, Acropolis and Deutschland rallies. All wins were made in Swedish Saab 93. Saab has impressive record of 18 major event wins in 10 countries during past two years.

BIG SHOW

International Automobile Show scheduled for April 5 to 13 in New York Coliseum will be double the size of '56 show. Six nations and 40 car manufacturers will display products in 200,000-square-foot exhibition area. Motorcycle, scooter and auto accessory manufacturers plus major oil companies will exhibit.

ROLL BARS

Production Category open cars must now have this protection in races sponsored by Sports Car Club of America. Previously bars were mandatory on Modified Class only, recommended on others.

FANGIO TO QUIT?

Clue to future probably lies in participation in first event, Argentine Grand Prix. Maserati withdrawal may have considerable bearing on issue. Fangio may retire if he does not race or place well. His new interest is in marketing Vespa scooter and possible production of Piaggio 400 small car.

NEW EVENT FOR SEBRING

Friday, March 21, the day before the '58 12-hour Grand Prix at Sebring, will be set aside for a vintage car show. All pre-World War II cars are eligible. Elderly racing and sports-type speedsters as well as formal types will hold "mobile" demonstration.

A.C.C. FOR U.S.A.

Competitive events in the United States will again have representation in F.I.A. (Federation Internationale de L'Automobile) which serves as international clearing house for records, standards and conduct of events. New U.S. Automobile Competition Committee consists of Charles Moran, Jr., past president of Sports Car Club of America; Briggs Cunningham, sports-car driver and distributor; William Burden, former Asst. Sec. of Commerce for Air; George Rand, race driver; Bill Tuthill, racing expert; and Harley Earl, Vice President and Chief Stylist for General Motors. Earl's spot may be source of much conjecture in view of A.M.A. resolution against factory participation in racing.

ASTON-MARTIN TEAM

Manufacturer David Brown's sports-car team for '58 will have six drivers. Veterans Roy Salvadori and Tony Brooks have already inked contract. Also signed is newcomer Jack Brabham. Brown's Aston-Martins scored spectacular wins at Silverstone and Nurburgring in '57.

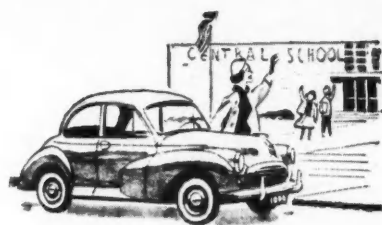
NEW USAC PREXY

Thomas W. Binford, Indianapolis, was elected President of United States Auto Club at annual winter meeting. Binford succeeds Col. A. W. Herrington, who was named President Emeritus. New head is President of D-A Lubricant Co. Others elected were George M. Ober, Indianapolis, Midwest Vice-Pres.; Tom Frost, Warrenton, Va., Eastern Vice-Pres.; J. Gordon Betz, Beverly Hills, Calif., Western Vice-Pres.; William P. Nottingham, Indianapolis, Sec.; and Howard Wilcox, Indianapolis, Treas. Duane Carter remains as Director of Competition.

NEW FACEL-VEGA

Newest in this line is the Excellence four-door, companion to the two-door sport coupe. Both are powered with 360-bhp special Chrysler Typhoon engine. Automatic transmissions are standard; four-speed Pont-A-Mousson stick-box optional. Excellence has 124.8-inch wheelbase, Sport Coupe 104. Both have aluminum brake drums; front are air-cooled, rear chrome-plated. Price, F.O.B. New York, is \$9750 for coupe, \$12,800 for Excellence.

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